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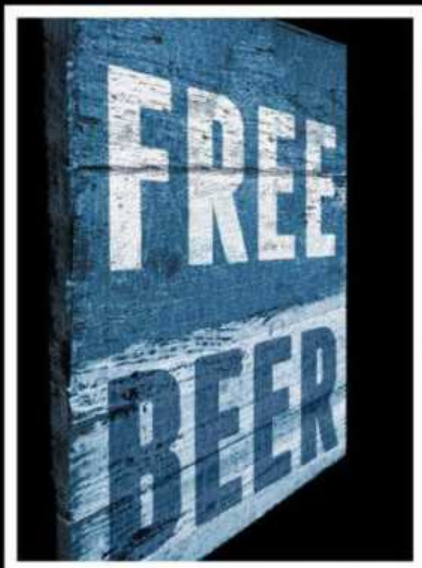
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Us Vs. Them?

THESE DAYS, MOST OF MY ADVENTURES SEEM TO involve motorcycles. But just before heading for Sturgis this summer on my 1947 Indian Chief, I took a short trip to England, where I lived as

a young lad in the 1960s. British author George Bernard Shaw, the avid motorcycle rider who introduced T.E. Lawrence (Lawrence of Arabia) to motorcycling, was once quoted as saying “England and America are two countries separated by the same language.”

After this quick trip, I’d say our two countries are separated by a lot more than just the same language — especially when it comes to motorcycling.

Some time ago, I realized the size and style of motorcycles were often determined by the roads in the country they were built. Many years ago, Italian and British bikes were light and sporty to match the narrow and winding local roads. And well into the 1960s, anything larger than a 500cc motorcycle was considered massive. American bikes, by comparison, were big and heavy — ideal for cruising the highways and, in later years, interstates of our sprawling country. Much of this has changed over the years, especially as global economies and markets overtake local ones.

During my recent visit to places in and around London, and in spite of the traditional British weather, I saw a lot more people commuting to work on motorcycles and scooters than I do in the US. I suspect the heavy traffic congestion and expensive gas prices make two-wheel commuting more practical than cars.

I saw very few Harleys in England, but lots of Japanese brands and a few British and German bikes. In the US, our most typical riding gear consists of boots and jeans, possibly with a leather jacket and open-faced helmet. Sure, there are lots of exceptions, but I’d say most American riders are pretty casual about protective riding gear. Not in

England. Practically every rider I saw wore a full-coverage helmet, armored textile two-piece riding suit, and gloves. Most of them also wore hi-viz yellow and reflective vests — something we almost never see (pun intended) here in the US.

I also noticed that few, if any, bikes in England have saddlebags — something we see on a growing number of bikes in the States — but most of them in England have top bags mounted over the rear fender. My guess is that protruding, side-mounted saddlebags might interfere while the rider weaves through narrow openings in traffic during the work commute. The top bag, however, affords at least some storage space for additional gear.

My final observation about our culture clash worth noting is in the difference between British and American police cars. So many of the squad cars in the US are designed for stealth mode, either unmarked with deliberately hidden lights and sirens or low-profile light bars, mixed with hard-to-spot markings on the front or back. The British police cars, on the other hand, are rather obvious and blatant in design and markings.

It made me wonder if British police prefer to reduce law breaking with their presence, while their US counterparts are more interested in catching us doing wrong, in essence serving as de facto revenue collectors. What are your thoughts on any of this?

Ride safe, ride smart, have fun.



PHOTO BY JIM DOHMS

American riders are pretty casual about protective riding gear

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TAKING AIM

Checking Your Six

WHATEVER YOU WANT to call it, checking your six, the term fighter pilots use, or watching your ass, the need to be aware of the traffic behind you doesn't stop when you're at a light or stop sign. Unfortunately, being rear-ended is a common accident for motorcyclists.

To avoid being a statistic, the first precaution you should take is to be aware of the vehicles behind you when you come to a stop. Is the driver slowing down or is he just rolling along at the same speed? What about someone darting around in traffic trying to get in front of the pack? He may be so busy cutting off cars he doesn't see you on a motorcycle.

So what can you do if a car behind you looks like it's not going to stop in time? Have an escape route. Lately, I've been trying to get in the habit of always stopping about a bike length from the car in front of me. I also position the bike so I don't have to turn the front end to get out of harm's way. All I have to do is let out the clutch and move!

But where do you go? In my opinion, the best option is an opening big enough for me, but too narrow for a car. If I'm on a road with two lanes going in the same direction, I set myself up so I can slip between the stopped cars. This way, the cars take the impact and not me. If there's only one car in front, I aim for the area between the car and the right side of the road if there's a telephone pole or other strong obstacle there. (Light poles just break away, so don't depend on them.) That pole will be my blocker



**Being rear-ended
is a common
accident for
motorcyclists**

if the fool behind me veers to the right.

What if there's only one car but no pole or other strong obstacle to be my blocker? In my experience, people tend to just slam on their brakes and go straight or they veer off to the right when in a panic stop. Personally, I've never seen a driver who's just realized he's going to hit the car in front of him veer to the left into oncoming traffic. So if I feel the right side of the road offers no protection, if there's room I line up on the left side of the car in front of me so I can sneak between it and

the double yellow line. Yes, this one is a little tricky, but it beats getting hit. I equate it with having to drive off the road to avoid a head-on collision. Finally, if I'm the only one at the stop line, I stay in the left half of my lane so the driver has plenty of room to veer to the right and miss me. If he just slams on the brakes, I'll go through the light/stop sign, if traffic permits. Whatever is the safer option for me.

Am I recommending you do any of the things I just listed? No way! I'm just letting you in on what I've done on and off for years, but now plan to do regularly.

See you on the road.

Chris

Chris Maida
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Editor's Choice/Las Vegas BikeFest

LAS VEGAS BIKEFEST HAS BEEN THE ULTIMATE motorcycle gathering in Las Vegas for the last 14 years. Now in celebration of its 15th anniversary, the rally is moving to the heart of downtown Las Vegas on Fremont Street East.



The Artistry In Iron Master Builders Championship is an annual invitation-only competition held during Las Vegas BikeFest and it includes 21 award-winning builders. Their bikes will be on display from Thursday, October 1, to Sunday, October 4.

The Editor's Choice Awards will take place Saturday, October 3, at 6:30 pm, just following the Artistry In Iron Championship awards presentation. Each participating magazine editor will be able to pick a favorite bike from the Artistry In Iron show and honor the lucky builder with an Editor's Choice Award and feature that custom bike in an upcoming issue. For more info, go to LasVegasBikeFest.com.

75 Spearfish Canyon

ARTIST ERIC HERRMANN HAS ENJOYED THE miles upon miles he's ridden in South Dakota's Black Hills so much that he decided to do a painting to commemorate



the scenic area. And what better place to find inspiration than from one of his favorite areas to ride in the Black Hills, Spearfish Canyon? Since this year marks the 75th Sturgis Rally, Eric's painting includes 75 motorcycle references, which are all derived from personal experience, hence the title of the painting, *75 Spearfish Canyon*. Completed with only a brush and acrylic paints, the original *75 Spearfish*

Canyon measures 36" x 48" and is available for \$22,000. Signed and numbered giclees are available in several sizes from \$850 to \$2,000 along with Eric's G Art metal panels (\$40). A limited edition litho print is in the works. For more information and to see more of Eric's work, go to EricHerrmannStudio.com.



AIMExpo

AIMEXPO (AMERICAN INTERNATIONAL MOTORcycle Expo) is a motorcycling experience that brings together enthusiasts and industry insiders in one arena, the Orange County Convention Center in Orlando, Florida. On October 17-18, you can demo the latest models at the innovative AIMExpo Outdoors!, see and purchase the newest motorcycling products directly on the show floor, meet celebrities, learn tips and tricks from the pros, and much more.

New to the AIMExpo this year is the first-ever Garage Party, an interactive show element that incorporates live music, a custom bike building competition, an extensive display of past and present custom V-twin motorcycles, a wide range of AIMExpo exhibitors, and an entertaining after-party at the new Ace Cafe Orlando.

On Saturday afternoon, the host of the Garage Party, Bill Dodge of Bling's Cycles, will lead a ride from his shop in Daytona Beach that will bring riders to the front doors of the AIMExpo. For more information, visit AIMExpoUSA.com.



Biketoberfest

EACH YEAR, NEARLY 125,000 motorcyclists roll into the Daytona Beach area for a multiday annual event called Biketoberfest. This extended weekend of fun and sun includes motorcycle shows and rallies, live music, scenic rides along State

Road A1A and other historic roadways, racing at Daytona International Speedway, and vendors offering everything from the latest models to parts and accessories. This year's Biketoberfest will take place October 15-18. Established more than 20 years ago by the Daytona Beach Area Convention and Visitors Bureau, Biketoberfest is typically held the weekend immediately following Columbus Day with most visitors staying throughout the week. A full listing of all the suggested rides, night life, and racing is available at DaytonaBeach.com. **AIM**

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The Long Haul

I'M WRITING THIS COLUMN WHILE PREPARING for my trip to Sturgis, South Dakota, for the 75th Sturgis Rally. The road will take me through Wyoming and Montana, so I thought this would

be a good time to discuss things to consider when planning for traveling long-haul journeys on a bike.

Let's first discuss packing. Knowing what to bring (and not to bring) is important. Just about everybody has a tendency to overpack, which directly affects the bike's gross vehicle weight, which includes occupants, gear, and fuel. That weight will impact the bike's handling, so the gross vehicle weight limit shouldn't be exceeded. One solution is to ship extra items that aren't needed for daily road travel to your destination.

But for this trip, I'll be staying at a different location each night, so I need to reconfigure my approach to packing. Since there are tons of web pages and blogs that cover information on this topic, I won't spend time on it, but knowing how to pack and what to bring is a crucial part of the trip.

Some final words, though, about packing: do a dry run with your bike loaded to make sure everything remains in place and secure, plus perform final checks for tire pressure, suspension, and lubricant levels. If you're strapping down luggage or other items, make sure your securing devices are firmly attached and aren't touching hot parts.

Next, make sure your bike is ready for the ride. Ironically, try not to have your bike serviced just before you roll out. Sometimes the service shop will spot a mechanical problem that you weren't aware of, and having it fixed could delay your trip. Also, it's wise to ride your bike a little after the service to make sure everything is up to snuff before heading to faraway places. Being stuck in the middle of nowhere with no cellphone reception can be extremely frustrating, not to mention placing a real damper on your trip. Perhaps as part of your travel itinerary, you can review dealer locations on your route. Besides knowing where to buy another T-shirt that you probably don't need, it could help save a little time in case that "what if" happens.

So now your bike is securely packed and ready to go, but what about you? Traveling long distances to new and distant places can be an enjoyable adventure, but consider, too, what you're capable of in terms of riding and seat time. For some folks, banging out a lot of miles during the first day is fairly easy, but fatigue will eventually set in. One way

to fight fatigue is to opt for regular rest stops so you can stretch, relax, and wind down before continuing. Always keep yourself hydrated, too, and pack some snacks in your gear — just in case. Digesting a heavy meal while traveling can have a tiring effect that you don't need, or want, to deal with.

What about the trip itself? You'll probably be taking interstate highways or back roads or a combination of both, so make note of any landmarks and sights you'd like to see. That will have an impact on how many miles you can cover in a day. For the most part, fuel and rest stops are readily available on interstates, but those options become fewer when riding off the beaten path. Knowing what your bike gets for gas mileage also is a factor for selecting the roads you travel.

There's one thing, though, that you can't control, and that's weather. Having an idea of what temperatures to expect on your route lets you adjust accordingly for the type of gear you'll need and how often you may want to stop for a break. If you share my lack of

faith in the weathermen's long-range forecasts, you might want to check The Weather Channel or refer to your favorite weather app on your smart phone before hitting the road. Heading into stormy weather isn't fun, and sometimes can be avoided either by waiting it out or rerouting your trip.

Finally, if you're riding with a group of friends, hopefully everybody is at the same experience level in terms of seat time, need of rest stops, etc. Riding with folks who stop more frequently than you prefer to do, or not enough for you, can take the joy out of the journey.

Traveling to distant destinations on your Harley is fun, but preride planning can make all the difference between a dream ride and one that turns into a nightmare. So always consider the unexpected, which can add to your delight or not. Most certainly, long-haul riding can be an adventure; it just depends on how you plan for it. And that's something you can plan on. **AIM**



Preride planning can make all the difference between a dream ride and one that turns into a nightmare

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Lane Splitting

LANE SHARING OR CALL IT WHAT YOU WANT — lane filtering, lane splitting, or just riding the broken white line, it's all the same — is good, and I'm all for it. Every state, except California,

has banned the practice of lane splitting, and that's too bad. But many states could fully legalize lane splitting, and they could do it soon, which would certainly encourage other states' legislatures to follow suit. In fact, bills to legalize lane sharing were introduced this year not just in California, but in Nevada, Washington, Texas, Arizona, and Oregon. The Oregon bill passed the state senate, the Nevada and California bills passed their respective state assemblies, and the Arizona bill passed, but was vetoed by the governor.

Critics of lane sharing argue that the process is dangerous. However, a recent study by the University of California says just the opposite, that lane sharing can actually save lives. The study concluded that motorcyclists traveling at 50 mph or slower are far less likely to suffer serious injuries in an accident than motorcyclists who aren't lane sharing or doing so at high speeds. The study found that just 9 percent of lane sharers suffered head injuries, compared to 17 percent overall. Furthermore, the death rate of lane sharers was 1.2 percent compared to 3 percent overall.

A recent National Highway Traffic Safety Administration (NHTSA) report even acknowledges that lane sharing could result in a safer traffic community by reducing the number of rear end collisions among motorcyclists. The report goes on to state that lane sharing is worthy of further study. So why is it unthinkable to some motorists that motorcycle riders be allowed to split lanes in stop-and-go traffic? In my opinion, jealousy. I feel that motorists in standstill traffic wish they could scoot around the stopped vehicles in front of them. But they can't, so they hate anyone who can. They use the ruse that lane sharing results in death and injury to scare away would-be supporters of lane splitting, when facts show that lane sharing is actually safe.

Some foreign countries allow lane sharing, and the practice does help generate smoother traffic flow. Many countries in Asia have two stop bars marked on the pavement at intersections. One bar is for cars and another bar in front of the cars is for two-wheelers. Doing so stages smaller, faster-accelerating motorcycles in front of the cages, allowing them to separate from the traffic mix until the next stop light where more bikes can filter to the front to further reduce time in traffic for everyone.

Technically, the practice of lane splitting isn't legal in California, nor is it illegal. So what gives? Well, the California Highway Patrol (CHP) recently issued lane sharing guidelines, not regulations, in hopes of instilling some good driving and riding habits for the motorists and bikers who share the lanes. Unfortunately, those guidelines were retracted due to a lone, anonymous petitioner objecting to them. As it stands now, law enforcement on that part of the West Coast is remaining neutral on the issue of lane sharing.

The idea of legalizing lane sharing is controversial, and not necessarily popular, among many motorcyclists. I personally think it's a great tool to have in the ride kit. When temperatures top 100 F (not to mention humidity!) here in the Washington D.C. area, and I'm on an air-cooled motorcycle in stand-still traffic, it sure would be nice to have the legal

option to keep motoring forward through stopped traffic.

Of course, with freedom comes great responsibility. Abusing the privilege to lane share by doing so at high speeds and scaring motorists in the process by suddenly rocketing past them isn't a great idea. And it will certainly unnerve those like your Aunt Connie and Uncle Ted on their way home from an early dinner. So if you live in an area where it's already legal, play nice. If it's not legal in your state, maybe it's time to ask yourself, why not?



Technically, the practice of lane splitting isn't legal in California, nor is it illegal

Editor's note: Jeff is the VP of government relations for the MRF and serves as its lobbyist. He is responsible for informing and coordinating action with regard to legislation, executive action, or judicial decisions that affect motorcyclists on both state and national levels. Follow Jeff on Twitter @jeffrey_hennie.

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A Friend For Life

THE MOTORCYCLING COMMUNITY RECENTLY said good-bye to a dear friend, Margery “Cookie” Crum. She had a huge impact on me personally, and it’s not easy to think I won’t share any more laughs with this big-hearted woman again in this

life. Her story is a special one, and she loved to tell it.

The year was 1946, and Cookie, then Margery Coffman, was still in high school learning shorthand. Or at least she was supposed to be learning that skill. But 15-year-old Cookie became distracted every time a motorcycle passed by her window at Sarasota High School in Sarasota, Florida. She wasn’t smitten by boys or school; her love was motorcycles, and she knew that someday she would ride one!

That someday came the following year when a boy named Kenny Kennedy taught Cookie how to ride. He would pick her up in his car, she would throw her boots out the bedroom window, pick them up, and off they’d go in his car to get on his 1937 Harley-Davidson 74.

During a family trip to Chicago’s Riverview Amusement Park, Cookie saw her first Wall of Death motordrome show. She became mesmerized, watching over and over as the riders raced up and down the wall. Little did she know that it was in her future.

Everything changed in 1949 when 18-year-old Cookie spotted an ad in the Sarasota *Herald-Tribune* for the World of Mirth Show that read “Travel and Adventure, will teach personable girl with nerve and courage to become a motorcycle exhibition rider in a Motordrome.” Cookie thought it sounded like a great adventure, plus she longed to travel, so she applied and got the job, soon to be billed as “Cookie Ayers, Queen of the Daredevils.” Ayers was her stage name.

But there remained one minor problem: Cookie needed to learn to ride what the showmen rode on the wall, a 1929 Indian Scout. It took about a month of practice for her to master the skill. She told me that riding the wall wasn’t as hard as it looked. But like anything, it took lots of practice.

The start was the hardest part, but once she got up on the wall, it was an amazing feeling!

Within the next several years, Cookie married, had her daughter Michele, and then got divorced. She raised Michele by herself along with help from her adopted family of “carnies” as they traveled the country with the motordrome show. Mother and daughter lived in the back of a semi-trailer that held the walls for her act. Cookie continued riding the wall for eight years, spending summers up north at the fairs and winters in Florida.

Although Cookie loved the traveling part of her job, she eventually settled down, and in her later years, she often referred to herself as a “retired daredevil.” But motorcycling remained constant in Cookie’s life. For many years, she was a member of the Motor Maids, and she later became a prominent Harley-Davidson dealer in Portland, Oregon. In 1985, Cookie married the love of her life, a wonderful man named Bob Crum, enabling her to actually become Cookie Crum! I often joked that she must have always been looking for a guy named Crum so she could have that name! Bob and Cookie spent many years together and also met because of their interest in motorcycling. Naturally, they were always involved in the sport.

Cookie and I met in 2008 when I was writing my book, *The American Motorcycle Girls, 1900-1950*. I fell in love with her contagious energy, which led to our lasting friendship. I was so thrilled to include her story in my book and proud when she was inducted into the Sturgis Motorcycle Hall of Fame in 2009.

Most of all, though, Cookie was a fun and wonderful friend with a hearty laugh. She loved talking about

her days riding the wall, and years later, she found a kindred spirit in another rare lady wall rider, Samantha Morgan. The two became great friends who shared a special bond. Cookie also enjoyed a great friendship with another wall rider, Charlie Ransom, whom she loved like a son. I learned so much from her, and that if you have a dream, then go live it! Be yourself and don’t be afraid to take chances or to spread your wings! We love and miss you, Cookie. **AIM**



Cookie thought it sounded like a great adventure, plus she longed to travel, so she applied and got the job, soon to be billed as ‘Cookie Ayers, Queen of the Daredevils’

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LONG, LONELY ROAD I just got back from a trip from Indiana to California on US Route 50. The loneliest road in America lives up to its name. There are mountains and deserts and everything in between. I took these photos in Utah and Colorado with a Nikon D90. It was a great trip, and I recommend 50 to anyone who wants to see something different than a three- or four-lane freeway.

BOB FRANKO
Via Internet

WHAT A PAIR! I just got done with the flames and custom paint job on my custom-built 1980 Harley Shovelhead. The flames were cut out with a plasma cutter then I hand-formed them to the tank. I drilled 15 holes in each one and spot-welded them to the tank. The color is Chevy Toxic Corvette Orange, and the carbon fiber was also hand-painted in a three-step process. The engine and transmission are all stock, just rebuilt, and there's a lot of chrome and polished aluminum. It's a great bike to ride and gets tons of looks. I also painted my 1995 Chevy truck to match the Harley.



GREG LANE
Central City, IA

We welcome letters on any subject, whether we agree with the writers or not. Electronic letters, both with and without photos, can be e-mailed to Letters@AmericanIronMag.com. Photos should be high-resolution, JPEG images (at least 300 dpi at 4" x 6"). Please also include your name, address, and a brief description of each photo. And although we reserve the right to edit, shorten, or change your letters so they make no sense at all, we do promise not to mess with your images. That means no phony mustaches, tutus, etc. (However, we may slip an issue of *American Iron Magazine* into the photo somewhere.)

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Russ Brown
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Russ was inducted into the Sturgis Motorcycle Hall of Fame, the only attorney ever to receive this honor. His commitment to the motorcycle community resulted in "BAM" (Breakdown Assistance for Motorcyclists), a FREE nationwide volunteer program of 2,000,000 riders helping riders everywhere in the U.S. We go the extra mile for our clients and our friends. Our business model is built on relationships and trust.

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I recommend Russ Brown Motorcycle Attorneys highly as they were fast and efficient when I needed them most. They fully appreciate riders' needs as they ride and understood my situation fully. I have no regrets and am very happy with the outcome. When the unthinkable happens, it's good to have them on your side. I wouldn't consider anyone else, neither should you.

”

-Thank you,
Rick Rademacher

Call us at **1-800-4-BIKERS** or visit our website at **RussBrown.com** today.

SPORTY BAGGER I named my 2007 XL1200L Sportster Midnight Rider. It has Vance & Hines Shortshot pipes,



naked air filter, and a fuel chip. It also has a tombstone taillight, Sundowner seat, and lots of bags. I bought it stock in 2010 with 700 miles on it. I put about 6,000 or 7,000 miles a year on it just going to work in Michigan. It would be more, but we get a lot of rain here in the summer.

ROBIN GUERRA
Pinckney, MI

MIRROR, MIRROR I love how AIP Speed used Harley-Davidson mirrors on the supercharged Fat Boy build in the story Beast With A Blower (page 44) in issue #325. I love the magazine.

DIANE CLARK
Via Internet

NO WORRIES! This is my 1992 XL Sportster, which was converted to a 1200. She is my replacement bike after



I lost my Street Glide when I was laid off. There's nothing better to take your mind off your troubles than a ride in the Texas Hill Country!

JAMES HALLMARK
Kingsland, TX

FROM A LONG WINTER'S NAP

Chris, I've been an *AIM* subscriber for some time as well as having several

H-D-oriented books that you've been involved with. My ride will have sat in storage for 18 months with no prep of any kind and a half tank of gas. I've heard so many nightmares about ethanol left in tanks. I know it'll need at least a charge, if not a new battery. I want to pull it out and hop on but know better than that. Could you tell me what I need to do and/or tell me what you've done to see not just the safety factor but so that I may properly take care of my bike and what to do before starting it? Words of V-twin wisdom would be appreciated.

PAUL LAFONTAINE
Wewahitchka, FL

Paul, you're right about the old gas in the tank being an issue. The half-filled tank could have allowed the top half of the tank to rust. Normally, the tank

has a protective coating inside to prevent this, but it's worth checking. Other than the obvious need to drain all the old fuel from the tank and refill it with fresh fuel, ethanol can be a problem on a carburetor-equipped bike. Once the gasoline has evaporated from the carb's float bowl, it leaves a varnish-like



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coating behind and sometimes over the main and slow jet in the CV carb. The fix is to remove the float bowl and spray carb cleaner on and into the holes in the jets to clear them of this coating. Dropping the float bowl also gets rid of the bad fuel in the bowl. I've never (so far) had an issue with the injectors in an EFI-equipped bike. Other needs would be to check tire pressure, fluid levels, brake fluid, brake and clutch operation, etc. Also check to see if there's any crap (nests, etc.) in the exhaust or air cleaner. Basically, do the same stuff you would check after storing the bike over the winter. However, before you top off the oil in the engine's tank, start the engine. Of course, make sure there's at least some oil in the tank first! Let the engine run about a minute or so to get any excess oil that's drained into the engine's lower end back into the oil tank. You can then top it off or do an oil and filter change (recommended). I hope this helps, Paul, and good luck!

— Chris

THANKS, RO! Hey, Rosemary, how's it goin'? Wanted to let you know I picked up the IMI slipcases, and you're right, they're really nice! You did a great job of packing them so they arrived in A-1 condition. Thanks again for assisting me with this transaction. I will be in touch again if you have anything left from the GreaseRag.com vaults of *Indian Motorcycle Illustrated*.

DON
Via Internet

THE RIDE Time has a way of moving quickly and catching you unawares. It seems like only yesterday I was young,



recently married, and embarking on my new life with my wife. Yet in a way, it seems like eons ago, and I wonder

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where all the years went. I know that I lived them all. I have glimpses of how it was back then and of all my hopes and dreams. But here it is, the last stretch of road, the last few curves, and it catches me by surprise ... how did I get here so fast?

I have no promise that the road will go on much longer, so I live for today and say all the things that I want to those close to me to remember. I laugh easily, forgive quickly, and I will never regret getting older. It's a privilege denied to many. The sun is shining; it's a beautiful day. Time to let the clutch out and enjoy the ride!

BRIAN FITZPATRICK
Via Internet

RUSHMORES AT RUSHMORE

For the past three years, my buddy Bob and I have been taking road trips



on our bikes twice a year. So far, we've traveled to 26 states. Our goal is to eventually hit every one. We used to do these trips on Dynas, but this year, we both bought new Project RUSHMORE Touring bikes to make the ride a little more comfortable. His is a 2014 Road King, mine is a 2015 Road Glide Special. Our latest adventure was a nine-day, 3,800-mile trip from New Jersey to South Dakota. We visited Mt. Rushmore and Custer State Park. We rode Needles Highway and many other great roads. We saw some beautiful scenery and met a lot of cool people along the way, too. These trips have become stress-relieving retreats for us. There's no better feeling than packing up your bike and hitting the road!

NICK GUADAGNO
Port Reading, NJ

WHERE'S THE EVO? In the article Last Labor of Love in issue #325, it states on page 62 that "... and it was

the style that lasted until the Twin Cam engine came along in 1984." What happened to the Evolution engine, and where can I buy an '84 Twin Cam? Really, overall, you have a great magazine.

TIM WAYMIRE
Elwood, IN

Yeah, we blew it big time on that one! Thanks for the assist. — Chris

SPORTSTER CLUTCH SPROCKET SPACERS

I've been reading your magazine for many years. When it comes to Donny Petersen's articles, I usually read them twice before anything else. In issue #325, Donny references a "mind boggling" list of Sportster clutch sprocket spacers. To add a little more "boggle" to the list, there is one more: #37755-57. It's in the 1965 Sportster parts catalog, and I'm using one in my 1967 XLCH restoration. I believe it has the same dimensions as #37754-74. As Donny states, it's "very confusing." I can attest to this as I just went through the process myself.

JOHN BRADLEY
Via Internet

THANKS FOR TRIKES Thanks for the latest issue of *AIM* (#326). Tracy Martin's trike kits article couldn't be more timely. I'm looking at this being my last year of riding two wheels due to some medical issues. I have been thinking of converting my Road Glide into a trike. The article brought up several good points, one of which I had never thought about: the ABS issue. I'm going to have to deal with it throwing codes or come up with a way to eliminate it. I also learned of a few manufacturers I wasn't aware of. It's great to see that the folks at *AIM* are considering those of us who are getting too old (or broken) for traditional riding, but not yet willing to give up being in the wind. thanks. It's much appreciated.

THOR
Via Internet

BURNIN' DOWN THE HOUSE

John D. stated he was having trouble kickstarting his magneto-fired 1964 XLCH in cold weather even though the bike had always started well. Dan gave him a lengthy list of things that might be causing the problem. Before doing anything, try covering the bike and placing a space heater under it for about 30 minutes. This will warm up the 60W oil and allow John to utilize his warm-weather/cold-start combination. I once had a 1952 K Model with a magneto and no battery as well as a 1973 XLCH with points. Cold-weather starts were never a problem.

NICK GARTON
Bedford, TX

PART OF THE FAMILY I love my 1995 Road King, which I purchased new and have owned for 20 years! I



consider this bike a family member and have enjoyed the journey to make it my own creation. It's a joy to ride and has taken me to a ton of great motorcycle events.

J. DANNY GIBBS
Cartersville, GA

VICTORY GUY JOINING THE

FAMILY I've enjoyed your mag even though I ride a Victory. Issues #323-24 were very interesting and bold for a mostly Harley-oriented magazine. Donny Petersen's articles in those issues comparing Harleys and Victories were fun to read. Now don't get me wrong, I'd love to have a Harley. I've always wanted one and never have gotten one for a number of reasons: I've been on a Victory for seven years, and I have just too many T-shirts and caps to change now. I'm now a subscriber because I like the content and layout of your mag. Furthermore, I've seen your sponsorship of events and places I like and also support. So, I'm joining the family.

JOE SIMERTZ
White Bear Lake, MN
AIM

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EXHAUST SYSTEM THEORY

Part I: Pressure pulses, sonic waves, and header pipe sizes

BRING UP THE TOPIC OF MOTORCYCLE EXHAUST systems, and all kinds of things come to mind: looks, sound, performance, and cost. In fact, changing a motorcycle's exhaust system is one of the most popular modifications riders make to their motorcycles.

Stock Exhaust

WHY CHANGE THE FACTORY EXHAUST ON A HARLEY-DAVIDSON? Exhaust beauty is in the eye of the beholder, and because the exhaust on a Harley is prominent, changing the entire exhaust system, or just the slip-on mufflers, can make a significant difference in how a bike looks and sounds and what that statement says about the owner. For example, if you own a 2008 Softail or Dyna and don't want the same exhaust system as the other 140,908 owners of the same motorcycle, you can change the exhaust to aftermarket components and stand out from everyone else. Aftermarket exhaust systems/components can (hopefully) add engine performance, another reason why owners want to change out the stock exhaust.

Why doesn't the factory install high-performance exhaust on all of its motorcycles? After all, H-D has the engineering expertise and dynamometer-testing facilities to design the perfect

exhaust system. The Motor Company's goal regarding exhaust systems is to do just that, but it must also keep the cost as low as possible and comply with all of the government-mandated rules for doing so.

As far as engine performance is concerned, understanding what an exhaust system is supposed to accomplish will help in determining why some systems work better than others. The exhaust stroke, in the four-stroke engine cycle, starts when the piston is moving upwards and the exhaust valve opens. When this takes place, there are many factors that come into play inside the exhaust system. These include exhaust gas velocity, pressure and sound waves, and the temperature of the exhaust gases, which all interrelate to affect engine performance.

Exhaust Pulses & Waves

WHILE AN EXHAUST SYSTEM MAY APPEAR as only a series of tubes, it's much more than that. Think of a motorcycle exhaust system as an air pump that uses exhaust pressure pulses to assist in removing burned gases from the engine's cylinders. In addition to gas removal, the exhaust pump also helps refill the cylinders with a fresh air and fuel charge for the next combustion event. When the exhaust valve opens during engine operation, a pulse of high-pressure gas travels into the exhaust header pipe at about 300 feet per second (fps). In addition to the pressure wave, a sonic wave (sound wave) also travels down the header pipe at a faster 1,600 fps. That's 1,091 mph! The speed of both the sonic and pressure waves is determined by the shape and diameter of the header pipe, plus the temperature of the exhaust gases. When exhaust gas temperatures decrease, both waves slow down. To retain more heat,

What exhaust system you choose has a big effect on how your engine performs. Each style of system, as well as the diameter and length of the header pipes, does a lot more than just get the hot exhaust gases away from your legs. (Rinehart exhaust system shown).





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exhaust pipes are shorter on a race bike than those used on a street motorcycle. It's also why some racers wrap their exhaust system in thermal tape and/or use an internal ceramic coating to keep the exhaust gases as hot as possible as they pass through the system.

The high-pressure exhaust pulses move down the header tube at high speed, creating a low (negative) pressure area just behind the high-pressure wave. When the exhaust gas wave reaches the collector (where both header pipes join in a 2-into-1 system), it expands because the area of the collector is much larger than the header pipes. The wave expands within the collector in all directions, including back up the header pipe to the exhaust valve. This expansion also takes place in 2-into-2 and true dual systems, but to a lesser degree. In a well-designed exhaust system, the negative part of the pressure wave reaches the exhaust valve during valve overlap.

Valve overlap takes place at the end of the exhaust stroke when the piston is near top dead center (TDC) and the intake valve is just starting to open. With both valves slightly open, the intake runners are subject to the pressure in the exhaust. When the negative exhaust pressure wave reaches the exhaust valve, it goes into the combustion chamber and sucks out the last bit of exhaust gases left over from the exhaust stroke.

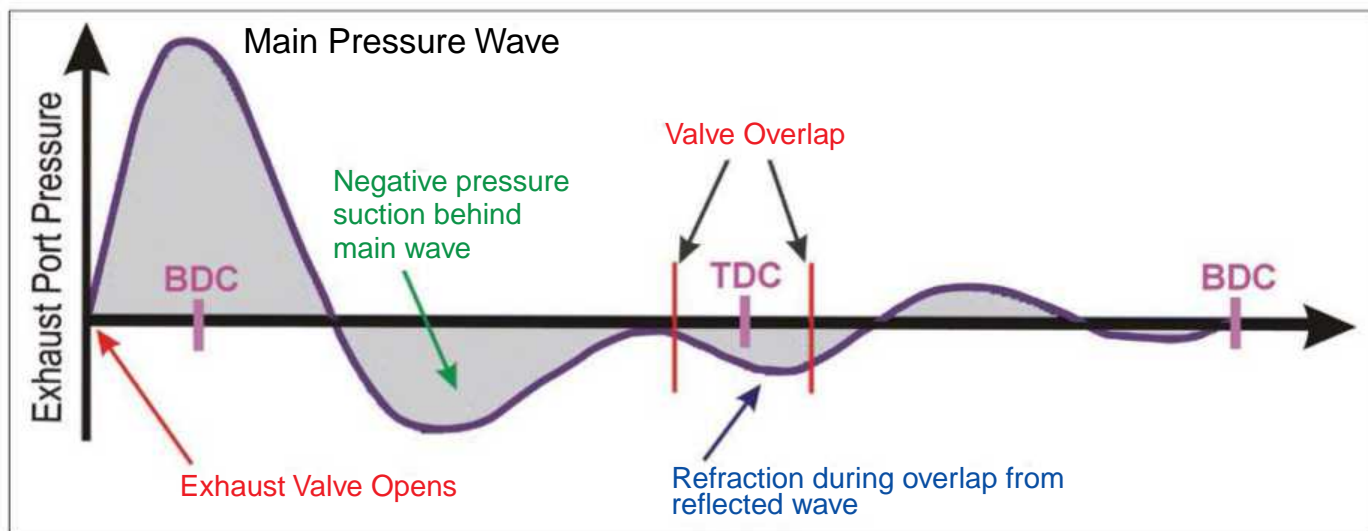
The negative pressure wave continues past the slightly open intake valve and possibly into the intake runners, helping the fresh air/fuel charge get a head start in filling the cylinder. The end result is that the cylinder now fills with more air/fuel mixture than it could without the negative exhaust pressure wave. This cylinder filling translates to an increase in the torque curve. There's no free lunch, and this "supercharging" effect only takes place within a 200 or 300 rpm range. At other engine rpm, the pressure wave may have no effect or even have a detrimental effect on engine torque production because a positive pressure wave can also carry exhaust gas back into the cylinder and intake runner and dilute the incoming fresh air/fuel mixture charge.

Header Pipes

IN ADDITION TO TEMPERATURE, ANOTHER factor in keeping exhaust gas speeds high is the diameter of the header pipe. The larger the pipe, the slower the gas speed for the same engine displacement. Pressure always moves from high pressure to low pressure, and higher exhaust gas speeds create a lower negative pressure wave that helps extract the high-pressure exhaust gases from the cylinder. As stated earlier, having lots of negative pressure during valve overlap is the key to making engine power. The header pipe size is related to engine displacement,

and the header tube should be slightly larger than the exhaust port area. If the header pipe size is too large, the exhaust gases slow down and less exhaust will be pulled from the cylinder, making less engine power. Header tube size tends to shift torque production up or down in relationship to peak torque output and engine rpm. The length of the header pipe also affects the amount of torque produced both above and below the engine's peak torque rpm. In general, shorter header pipes create torque higher on the rpm scale, and longer pipes move peak torque lower on the rpm scale.

Here are some general guidelines regarding header pipe diameters on Twin Cam engines. For 88", 96", and most 103" engines, use a 1-3/4" header pipe diameter. On 110" and 113" engines with intake valves that are 2.100" or larger that are focused on making horsepower, you should use 2" header pipes. For Twin Cam engines below 120", header pipe size should be based on the state of tune. The degree of cylinder porting, camshaft duration and lift, and level of compression can require either a 1-3/4" or 2" header pipe. For Twin Cam engines 120" or larger, a 2" header pipe should be used. As for Evo engines, if the displacement is under 100", use 1-3/4" header pipes. If the engine is over 100", use 2" pipes. High-performance S&S 96"-124" engines should run 2" headers because




This graph shows how exhaust pressure waves affect pressure at the exhaust port in the cylinder head. When the exhaust valve opens, the pressure goes up and turns negative as the pressure wave creates a vacuum behind it as the wave travels through the header pipe. The negative pressure ultimately helps move the exhaust gases out of the header pipe. Negative pressure occurs again during valve overlap and gives the incoming air/fuel charge a boost as it travels through the intake valve. While this graph only shows one pressure wave cycle, the process takes place many times per second during the exhaust stroke.



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their cylinder heads flow more effectively than stock Evo engines.

Header pipe length is problematic on Harley's V-twin engine because of its timed crankshaft and close-firing order. Header pipe lengths have to be restricted on a Harley to between 20"-40". Outside these parameters, the rider's feet, legs, forward controls, and footpegs/floorboards get in the way of the pipes. In general, longer header pipes tend to increase engine power below peak torque but decrease it above, while short pipes affect engine power by decreasing midrange torque but add to top-end power.

To summarize, longer, small-diameter header pipes work for lower rpm, and shorter, large-diameter pipes work for high-rpm power output. Regarding engine size, smaller engines require smaller head pipes, both in length and volume, and a larger engine requires a larger head pipe in volume. Too much header pipe volume on an engine will shift the peak torque up the rpm scale, which is great for all-out power, but not so much for street riding where low to midrange torque is important.

Stepped Headers

SOME EXHAUST MANUFACTURERS use stepped header technology in their designs. A stepped header, or head pipe,

uses increasingly larger diameters along the length of the header pipe. In most designs, the smallest tubing diameter starts at the header flange exhaust port and, at some distance from that point, the tubing diameter is increased 1/8". This increase in head pipe diameter is the step. Most stepped headers consist of either two head pipe diameters that make up a single step or three tube diameters that result in a double step. The theory behind using a stepped header is that more negative pressure reversion waves are generated at the exhaust port than with a single-diameter head pipe. However, the no-free-lunch rule applies, and the low-pressure waves in the stepped pipe can be weaker than those created by a non-stepped pipe, depending on the design. The steps help maintain exhaust gas velocity over the entire length of the head pipe and, theoretically, this can widen the engine's torque curve by increasing the time that the negative pressure wave is at the exhaust valve.

The advantage of using a stepped header is that it can create high torque at low rpm and high horsepower at high rpm. The stepped header is essentially a tapered pipe, but as the pipe diameter increases, the engine rpm that benefits from the strong negative pressure waves becomes narrower. Conversely, a longer pipe with fewer steps widens the effec-

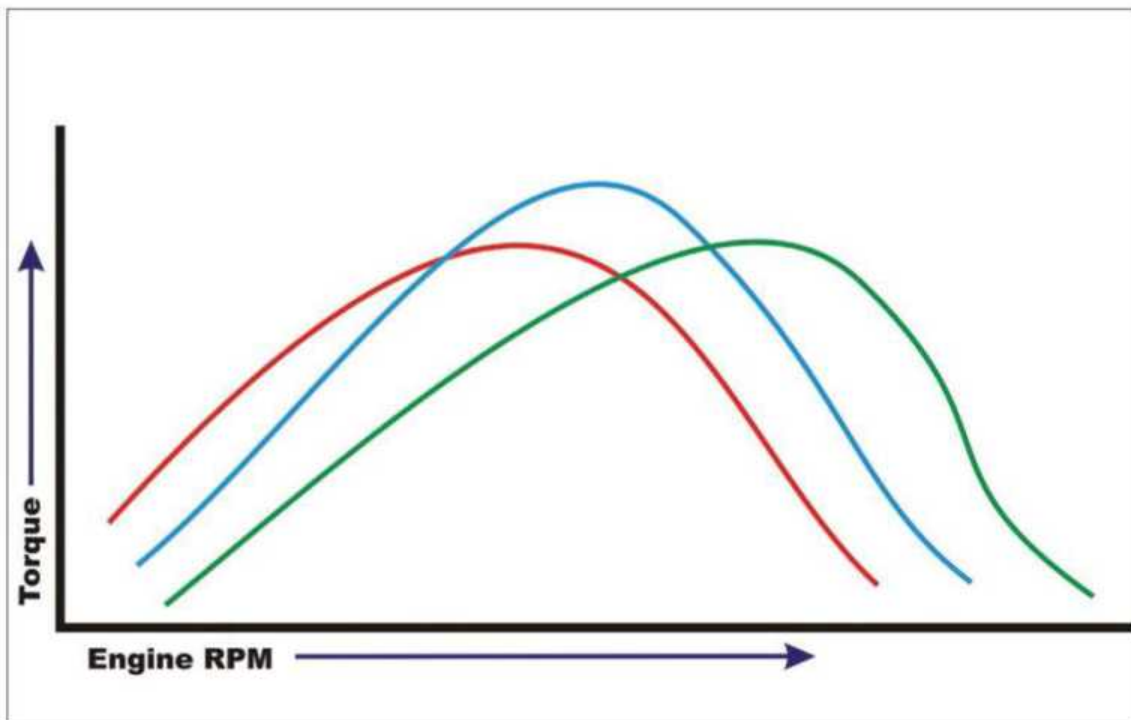
tive rpm range that the waves work in, but the strength of the waves will be less. Because of these tradeoffs, stepped headers tend to work best on large-displacement and/or high-rpm engines.

The length, placement, and diameter of the steps are but a few of the numerous variables that effect how well a stepped header pipe works. There are other factors that limit how they're designed. For example, the distance of the bend in the header immediately after exiting the exhaust port and the location of the motorcycle's frame determine where the first step can be placed. With lots of opinions regarding the use and design of stepped headers, it's hard to know how well they work for every combination of performance parts on a particular engine. There are numerous factors that all interrelate and affect standard and stepped header design — engine displacement, valve and port size, camshaft duration and lift, cylinder head porting, and engine rpm — so it's difficult to make comparisons between the different designs of head pipes.

Conclusion

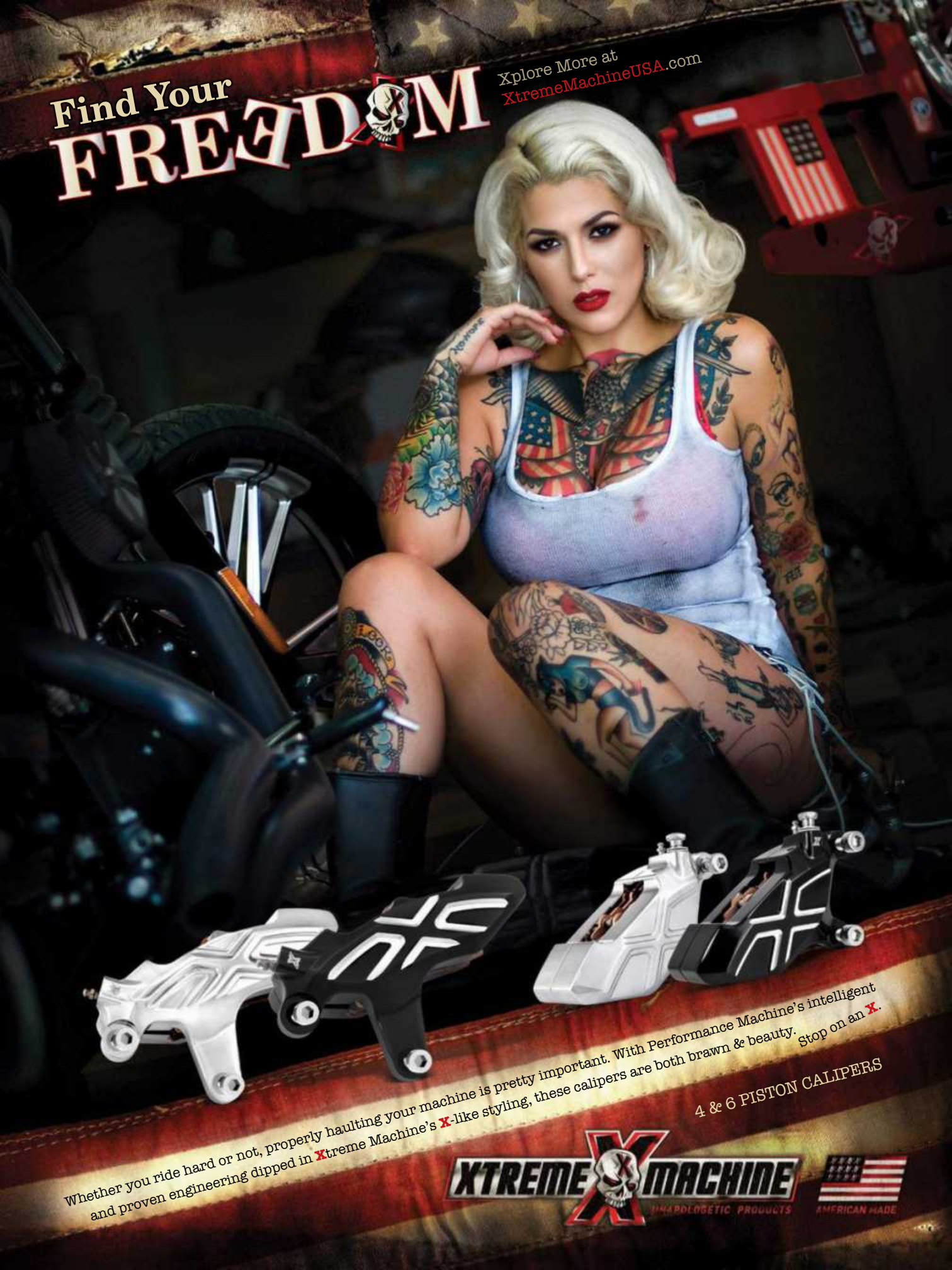
IN THE NEXT ISSUE, WE'LL DISCUSS 2-into-1, 2-into-2, and true dual exhaust systems, back pressure, catalytic converters, slip-on mufflers, and other topics. **AIM**

This graph illustrates how changing the header pipe diameter affects engine power with a given engine size. The small-diameter pipe (red line) provides good midrange torque but drops off at higher rpm. The largest diameter pipe (green line) adds torque at high rpm but at the expense of low-speed torque. The medium-sized pipe (blue line) provides slightly more torque in the engine's midrange and is a good compromise between the larger and smaller header pipe diameters.



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Victory Magnum vs. H-D Road Glide

Part II: Fairings, saddlebags, comfort, sound system & finishes

Here are Norway's Bergen Harley-Davidson Manager Ivar Erdal (left) and Service Manager Sjur Bruland (right). The dealership is welcoming and a personal relationship develops quickly due to their good and knowledgeable staff. Trust me, I don't say this about some corporate stores.

I HAVE BECOME A HARLEY HERETIC. HOWEVER, I'M NOT alone as the reader will see. I have ridden Model K, 45", 74", and 80" flatheads; Panheads, the odd Knucklehead, Sportsters, many Shovels, lots of Evos, and even more Twin Cams for over 45 years. I have experience with dressers (baggers) equipped with both frame-mounted and fork-mounted fairings; kick and electric starters; rigid, swingarm, rubber-mount, and Softail frames; frame-mounted, parallelogram, and pogo stick seats; hand, jockey, and foot shifters; foot, hand, and hydraulic clutches; dead man's wire, single cable, dual cable, and fly-by-wire throttles; stock motorcycles of all vintages; modified Harleys of all types; every kind of chopper imaginable; and performed H-D engines of every size and configuration. Do I like Harley, the motorcycle? I love Harleys! I've lived and breathed Harley my whole life. I've ridden various H-Ds across North America, and in Europe, the Middle East, South Africa, Thailand, and parts of Russia and South America.

Harley has a great story, an extraordinary and fabled history. Its quality has improved immeasurably from what it was. However, I've added an American-made 106", six-speed over-drive transmission-equipped, 2015 Victory Magnum to my stable. I've been comparing my Magnum with my 2007 performed H-D Street Glide. There is no comparison. The Magnum is superior in every way to my 8-year-old Street Glide. I lined up my Magnum with my 2007 Street Glide. Sur-

prise! The Magnum is a bit bigger. Wow! I didn't expect this to be so. However, the Magnum is about 75 pounds lighter, likely due to its aluminum frame.

The comparison between an older and newer bike is not fair. I needed to ride a 2015 Harley-Davidson to even the odds, so I rented a brand-new 2015 103" Rushmore Road Glide Special from Bergen Harley-Davidson (HDbergen.no) in Norway. As a note, the H-D Rushmore 103" models have a new OEM air cleaner and cams, which work much better and are a big improvement over the previous stock 103" air cleaner and cams. I rode with my Norwegian buddy, Egil, through Denmark, Germany, the Czech Republic, Slovakia, Serbia, Macedonia, Greece, Italy, and Austria. We took a different route back through Germany, Denmark, and into Norway. Egil rode a 2001 fuel-injected Twin Cam 88. The 88-incher had no trouble keeping up with the larger Road Glide engine to about 85 mph (140 kph). After that, the Road Glide dominated. The 2015 Harleys have improved immeasurably over previous models. My immediate response was, "Wow!"

How It Started

SINCE I'M NEW TO VICTORY MOTORCYCLES, I'll begin by saying how this bike began to imprint itself on my Harley mind. Impressions leave subconscious etchings that guide future interactions as positive or negative. I had four major first impressions over the last three years.

My first impression was three years ago with Victory's deluxe bagger, the Vision, when a friend bought one. I thought the Vision was innovative and functional but certainly not my cup of tea. It is out there! Its designer, Arlen Ness, must have been taking designer steroids! I didn't and do not like this





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You know every inch of your bike. Not just the engine size, or the color code of the paint. It's the special details that only you know about. Like the way the exhaust opens up just right at 3,200rpm. Or that scuff on the footpeg you picked up while riding through Deal's Gap.

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bike's looks. However, it is a very comfortable touring bike, one of the best with many innovations like push-button power windshield height adjustment.

My second impression occurred during winter two years ago when another friend was stranded out west, 4,500 kilometers (2,800 miles) from Toronto. He could have taken a bus, train, or plane home. Instead, this hardcore Harley rider bought the least expensive big engine (106") American-made motorcycle he could find, a Victory High-Ball. He is the definition of tough as he rode the bike home in a Canadian winter without a hiccup. He froze, but the bike didn't miss a beat except when he encountered snow-bound highways. The bike's reliability in adverse conditions was impressive. Furthermore, the appearance of the High-Ball is palatable to the Harley mindset.

The third impression occurred last summer when I was riding south to Toronto from up north with two friends. Traffic was flowing at 140 kph (85 mph). Suddenly, a black, stripped-down bagger passed us like we were standing still. It was rapidly changing lanes, white lining, and whatever else it took to get through the traffic. The bike's straight pipes were loud, really loud and sounded mean. Whatever it was, I could tell the engine had work done to it. I was confused. It couldn't be a Harley, but it looked like one at speed. The sound it made was great, similar to a Harley. However, it was too nimble, too purposeful as it maneuvered through the cars to be a Harley bagger. A Harley bagger swings back and forth at speed when rapidly changing lanes. It was a Victory Cross Country 8-Ball.

My last impression was early this year at a bike show. I spotted the colorful Cross Country Magnum from a distance and was drawn to its customized styling. Its paint, inverted dual-cartridge Wide Glide forks, and a 21" wheel on a bagger, among a host of other features, began to grab me. All Victory models have the same drivetrain with a 106" V-twin engine, overdrive six-speed transmission, and carbon fiber rear belt drive.

My friend, Doug Coffey, has been riding Harleys as long as I have. He owns and operates the longtime H-D aftermarket performance company Head Quarters. Doug is famous for Harley-Davidson performance headwork, like

The Magnum fairing is fork-mounted, like the FLH, but these front forks do not shimmy with wind buffeting due to its smaller, aerodynamic design and superior hydraulic suspension.



porting and polishing, and designing Harley performance cams. This guy is at the top of his game. Doug has purchased a 2015 Ness Magnum and sold both his Harley-Davidsons after two months of riding his new Victory. He says, "I feel Harley should have evolved to this point. Changing teams is not an easy thing for us lifelong Harley aficionados to do, but Victory quality and price just couldn't be ignored." Let's start the Magnum to H-D comparison with the fairings and saddlebags.

Fairings

I DIDN'T INITIALLY LIKE THE NEW ROAD Glide fairing. Of course not; it's a departure from H-D styling. As our trip progressed, I changed my mind and feel it's the best looking fairing of any Harley, including the all-time favorite FLH fork-mounted batwing fairing. It's also the most functional. However, the batwing is buffeted by wind at high speed, which causes the front end to shimmy. The rider will tire sooner since he has to constantly contend with this. The beauty of the FLT fairing design is that it's aerodynamically shaped and frame-mounted, which results in an easier ride. The Magnum fairing is fork-mounted like the FLH. However, these front forks do not shimmy with wind buffeting because it has a smaller, aerodynamic design and a superior hydraulic suspension in the front end. Many people don't like this fairing's looks at first either, but it, too, becomes beautiful after a period of adjustment.

As for the windshields, neither one fully protects the rider. A full-face helmet cures this or an aftermarket windshield. I don't mind some rain since I've ridden chopped Harleys with a half helmet most of my life, so I'm used to it.

Boz, a top tech guy from England, recommends the Madstad (Magstad.com) system for the Victory. H-D has its own choice of windshield replacements. My comment is that, either way, a different windshield fools with the bike's looks. Don can be very shallow.

Saddlebags

I ADAPTED QUICKLY TO THE LOOKS OF the Magnum fairing and saddlebags. I was a longtime bike customizer, so I can tell both were trick designs incorporating functionality. One part flows into the next. However, many people don't like one, the other, or both. Some have to adapt slowly to the Magnum look. After first seeing the Magnum, there were design features that I didn't like or felt awkward with. Each time I saw the bike after that, my opinion changed positively a little bit each revisit. Soon, I had fully adapted, liked what I saw, and fully appreciated the design functionality of the Magnum. I evaluated why I didn't initially fall in love with the Magnum look. It's simple, for I, too, am a longtime Harley nut. My mind automatically rejects anything not Harley. I had my loyalty blinders on. What's not to like about the Magnum saddlebags? They have a full custom sweep to them and not a clunky, square H-D saddlebag look. The Victory bags flow with the bike. They are part of the bike, not an addition.

The Magnum saddlebag lids seal perfectly, and the locks are push button actuated. Furthermore, there's about 20 percent more storage space than in H-D saddlebags. That said, the 2015 Road Glide has the best H-D saddlebags to date with a functional lever open-and-close feature. Harley has had a long, torturous history with losing saddlebag

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lids, from overly complicated locking designs to the current easy-to-use, functional system.

Comfort

BOTH STOCK HANDLEBAR SYSTEMS ARE well-placed for comfort, but I think the Road Glide ones look better. Shallow Don immediately changed the Magnum bars to mini-apehangers.

I was sure that the Magnum was going to be more comfortable with its firm seat. I have to say that the 2015 Road Glide seat is better for me than the Magnum's great saddle. I thought the Magnum seat with its tapered edges that allow my short legs more room to touch the ground was good. Guess what? The Road Glide is also rider friendly with a very low seat height.

The Magnum floorboards still allow more variety of foot positioning with their longer length, angle, and adjustability. Yes, they can be adjusted back and forth for rider comfort. Doug Coffey weighs in: "I find Harley baggers [now] look small [after getting used to my Victory] when I sit on them. They feel small and cramped up, but still very awkward to manage at a stop."

Sound System

IT'S HARD TO BELIEVE THAT BOTH H-D sound systems on my 2007 Street Glide and the 2015 Road Glide (25 watts per

channel/speaker) are so far apart in quality. The difference is stark. The 2007 H-D system doesn't have an enclosure around the speakers to direct the sound directly at the rider. The 2015 Road Glide does have this boom box enclosure. Therefore, the sound appears to be so much superior, and to a person like me, it is. Furthermore, the new 2015 speakers are larger and are directionally positioned for best results.

I think the 2015 H-D system is almost as good as the Magnum's. However, I have a tin ear, so the fine points of sound quality are lost on me. So I let an expert on sound, who also happens to own a new Road Glide Special, listen to my 100 watt/six-speaker Magnum system. It blew him away. As he increased the sound level, he expected it to distort and crack at the highest volume level, which is real loud, louder than any motorcycle system I've ever heard. It didn't. It has clarity to the loudest levels. He was disgusted. He felt the Road Glide stock system was ... I won't repeat his negative terminology. Mr. Anal upgraded his stereo, spending much money. However, the Special sounds great to me. Sometimes, having a low sensory perception, like a tin ear, can save one a lot of money. By the way, Victory has announced that the Magnum will have an unbelievable 200-watt stereo on the 2016 models!

Paint

A READER, BRUCE, WRITES "HAVING SOLD Victory for a number of years, and as I sell Harleys now, I felt the need to address Donny's comparison of both these great brands...when it comes to comparing the paint on both brands. Victory may have flashier paint and in many colors and vibrant designs, but the quality of that paint no way compares to what Harley is offering today." I think the opposite, but Bruce is right in that H-D paint quality is great. Bruce continues, "Harley's paint seems many layers deep and very lustrous but when comparing Victory's paint there really is no comparison." Again, I think the opposite. Bruce persists: "When I sold Victory, we had a professional paint man on call to help fix the soft paint flaws that were apparent on most, if not all, models. We needed him daily to buff out flaws on the Victory models as they came right from the crate with swirl marks on the dark colors, and many times, once a bike sat on the sales floor for a week or two, it was necessary to call him in to fix the soft paint as it was always flawed, marked, and scuffed just after being wiped down with our cloths ... the metal fenders were dimpled under the paint, especially on the rear fenders of most models. Now, if you look at H-D, its paint seems to be at least four or five layers deep and never have we had to make excuses for the initial quality of the paint: flawless. Whether it was on a CVO or simply a Vivid Black basic paint option, it was always perfect."

Doug Coffey, a skilled painter in his own right, concurs with Bruce that his Ness Magnum's clearcoat is soft and prone to scuffing. This may still be a problem for Victory. I don't know but I take Bruce and Doug at their word since I'm new to Victory. Unlike my tin ear for sound, I am skilled at paint. I saw some normal, repairable flaws at the dealership on one or two Victory bikes. These are easily buffed out. I can do the same at any H-D dealership or car dealership, for that matter. Vehicles always have imperfections in paint, which are repaired afterwards. You can be sure that the paint imperfections at Bruce's dealership were corrected at the factory or during the PDI process. My Magnum



The Magnum saddlebags have a full custom sweep to them and they flow with the bike. The lids seal perfectly, the locks are push button actuated, and there's about 20 percent more storage space than in H-D saddlebags.

continued on page 135

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**Rat's Hole winner and
a life's achievement**

GOSH VARMINT

text by

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R

ATS USUALLY AREN'T THOUGHT OF IN terms of endearment. Usually, we place these pesky varmints in the same category with, say, taxes and visits to the dentist.

But builder Greg Carpenter has an affinity for a certain rat better known among custom bike and car freaks as Rat Fink. Greg, of

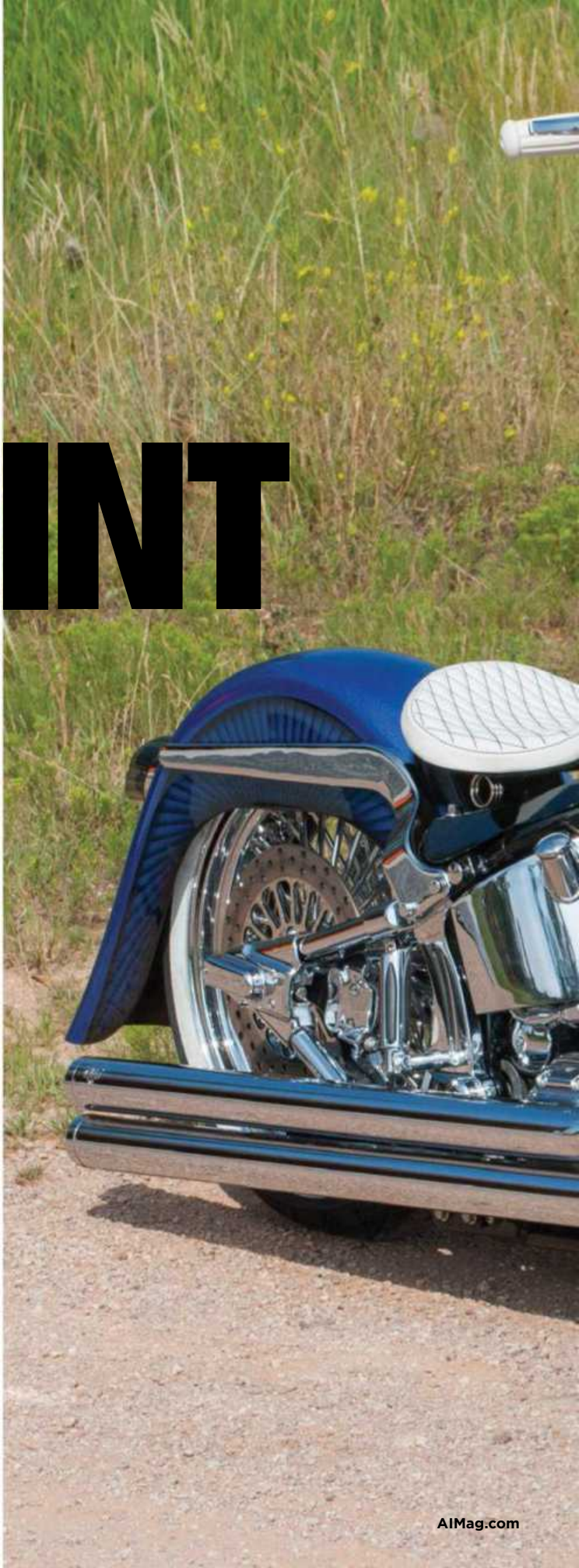
Thunder Custom Cycles in Elk City,

Oklahoma, even has a likeness of the fly-infested, fang-toothed, green-furred Fink tattooed on his arm. He's a fan.

So when the 2006 Harley-Davidson Heritage Softail Classic he built for longtime friend De (short for Demetrius) Brown won the Over-1000cc Stock Class at the Buffalo Chip's 26th Annual Sturgis Rally Rat's Hole Custom Bike & Chopper Show, Greg realized one of his life's ambitions.

"That was a really big deal to me," Greg, 36, says. "To have won that was just awesome."

Greg and De have been friends since high school. Together they've built a number of low riders based on Chevy S-10 and full-size GMC pickups. They still participate in the low rider scene, but about five years ago, Greg, who's a trained auto mechanic and volunteer firefighter, also turned his attention to building and servicing V-twin motorcycles. He launched that endeavor in his garage, but soon realized there was a need for a full-service motorcycle shop in Elk City. Sometime in 2012, he opened Thunder Custom Cycles in its 5,000 sq-ft building. He's never looked back.





The bike that won him the attention of the Rat's Hole Show started life as a used 2006 Heritage Classic that Greg had taken in trade. De bought the bike and then told Greg he wanted a low rider cruiser-style custom motorcycle. At that point, he let Greg run free with the build. Greg went with a vintage vibe, using plenty of modern components to do so.

The project began with the full monty, stripping the bike to its bare frame. Even though no frame modifications were made, Jet-Hot High Performance Coatings (Jet-Hot Central) in Oklahoma City treated it to fresh black powder-coating. Meanwhile, the rear swingarm got a serious shine with a dip into the nickel and chrome tanks at Classic Components in Santa Ana, California. Suspension chores

were handled by a made-in-America Shotgun Shock air ride system, which, at the flip of a switch and while on the fly, can raise or lower the bike's ride height.

Up front, Greg installed a set of Arlen Ness triple trees that offers an additional 3 degrees of rake. The trees now hold a set of stock-length fork tubes wearing Arlen Ness Deep Cut Hot Legs —in chrome, of course — to match the rear. De picked the wheels, choosing a set of DNA Mammoth Spoke hoops front and rear. The rotors are matching DNA ware, while the front and rear chrome calipers are from the Arlen Ness catalog. Vee Rubber tires, with their whitewall detail, help with the old-school look that Greg wanted for the low rider Softail.

Crowning the fork are a stock Harley tin cover and head-



light with extended rim housing and HID bulb. Carlini 2" risers support a set of its Gangster Ape handlebars that carry Arlen Ness Deep Cut controls and vintage-style white grips.

When it was time to play with the tin, both Harley fenders were pitched in favor of Klock Werks Benchmark fenders easily, and they required minimal trimming. At the rear, a Custom Dynamics all-in-one LED taillight provides running, brake, and turn signal lighting. To further clean up the rear, Greg modified the stock fender rails by shaving them and welding shut all the holes before Classic Components dipped them in chrome.

There's nothing wrong with the shape of the stock Harley-Davidson gas tank, though, so it and the original oil tank remain part of the mix. An Arlen Ness dash, equipped



with a Dakota Digital gauge, went on top.

Greg concealed the battery and electrical components with a sheet metal cover that he fabricated to fit under the saddle. He also formed a new seat pan, mounting it on a pair of hairpin springs. Using blue thread, James Carter of Bitchin' Stitchin' in Springdale, Arkansas, sewed up a white leather diamond-tuck cover. To maintain the low rider theme, Greg selected floorboards and foot controls from Arlen Ness' chromed Deep Cut collection.

Meanwhile the 88" engine had been sitting idly nearby, so Greg decided it was a good time to freshen it and give it some extra punch with a S&S 103" big-bore kit. The engine rebuild also includes a Feuling oil pump and cams.

Although Greg retained the factory fuel injection, the engine breathes through a Carlini air cleaner, and a Power Commander V helps monitor the air/fuel mix. Exhaust is



ushered away from the combustion chambers through Vance & Hines Longshots headers and mufflers.

Finally, it was time for paint. Greg sent the tins to Mark Whiteskunk of Skunkwerx Paint and Body in Sayre, Oklahoma, for the brilliant House of Kolor Blue Pearl that has plenty of flake mixed in. The panel graphics highlight a Japanese sunburst, which was applied by airbrush using various shades of blue and black for contrast.

"I think one of the coolest parts about the bike is the paint," Greg

explains. "It really sets it off and gives it an old-school feel." Apparently, the folks at the Rat's Hole Custom Bike Show think the entire combination is clean and tidy, enough to merit an award. As for Greg, he now has a statue of a rat on his trophy shelf to prove he's Rat-worthy — just don't call the exterminator. **AIM**

TECH SHEET •

Owner: De Brown
Builder: Greg Carpenter, Thunder Custom Cycles, Elk City, OK
Year/model: 2006 Harley-Davidson Heritage Softail Classic
Time to build: Three months
Chromer: Classic Components, Santa Ana, CA
Powdercoater: Jet-Hot High Performance Coatings, Oklahoma City, OK
Painter: Mark Whiteskunk, Skunkwerx Paint and Body, Sayre, OK
Color: House of Kolor Blue Pearl with blue flake

POWERPLANT

Engine: 2006 Harley-Davidson Twin Cam
Builder: Thunder Custom Cycles
Displacement: 103"
Horsepower: 115
Cases: Stock
Cylinders: S&S Cycle 3.875"
Pistons: S&S Cycle 10.2:1
Heads: S&S Cycle
Cams: Feuling
Lifters: S&S Cycle
Pushrods: S&S Cycle
Carb: Stock EFI
Air cleaner: Carlini Design
Exhaust: Vance & Hines Longshots
Ignition: Power Commander V
Wires: Taylor Cable Products
Charging system: Stock
Oil pump: Feuling
Transmission: 2006 Harley-Davidson five-speed
Clutch: Barnett
Primary drive: Chain

Final drive: DNA Spoke pulley

CHASSIS

Frame: 2006 Harley-Davidson Softail
Rake: 35 degrees
Front forks: Arlen Ness Deep Cut
Mods: Raked 3 degrees
Front wheel: DNA Mammoth Spoke 3.50-23"
Rear wheel: DNA Mammoth Spoke 3.50-18"
Front brake: Arlen Ness four-piston caliper
Rear brake: Arlen Ness four-piston caliper
Front tire: Vee Rubber 120/70-23"
Rear tire: Vee Rubber 130/70-18"
Front fender: Klock Werks Kustom Cycles Benchmark
Rear fender: Klock Werks Kustom Cycles Benchmark
Fender struts: Stock/Thunder Custom Cycles

ACCESSORIES

Headlight: Stock/Thunder Custom Cycles
Taillight: Custom Dynamics all in one
Handlebars: Carlini Design Gangster Ape
Risers: Carlini Design
Seat: James Carter, Bitchin' Stitchin', Springdale, AR
Pegs: Arlen Ness Deep Cut
Chain guard: Stock, chromed
Speedo: Dakota Digital
Dash: Arlen Ness
License bracket: Klock Werks Kustom Cycles
Mirrors: Arlen Ness
Hand controls: Arlen Ness Deep Cut
Foot controls: Arlen Ness Deep Cut

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Tires—Dunlop, New York, U.S.A.

The Race—Pikes Peak, Colorado, U.S.A.

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2015 H-D CVO Street Glide

*Harley's premium best seller passes
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AS YOU KNOW, WE TEST QUITE A FEW MOTORCYCLES over the course of a year. It's more than a company policy, too; we try to test bikes the same way that *AIM*'s readers ride their own bikes. Essentially, our tests reflect what you might experience on the open road. But I did things a little differently last March when I plopped my butt onto a 2015 CVO Street Glide's sculpted saddle to experience a ride through some of the most extreme conditions we've probably ever tested a bike.

Sometimes we get a crazy offer that we simply can't pass





NEW BIKE REVIEW

up, and such was the case when Harley-Davidson invited me to sample a 2015 CVO Street Glide with a new midyear paint option. The catch was that the invite included a mid-March ride from Milwaukee to Sturgis, South Dakota, for the official groundbreaking ceremony at the new Harley-Davidson Rally Point plaza. We covered that incredible ride in issue #325.

I was introduced to my FLHXSE and its Carbon Crystal/Phantom Flames paint scheme outside Harley's Juneau Ave headquarters in Milwaukee. Snow had been accumulating on the bike for a couple hours, so before we left for Sturgis, I brushed the white fluff off the seat and the racy stadium-style gauges. Like all new CVOs, there's no ignition switch so, with the fob tucked safely in my pocket, I thumbed the start button. The 110" engine fired promptly, and I was ready to ride.

Initially for 2015, four insane CVO paint schemes were available midyear. Then out popped the new Carbon Crystal/Phantom Flames paint job as on my bike. This option also features a blacked-out powertrain, hand controls, handlebar, engine guard, brakes, exhaust tips, and tank console. I was looking forward to this Sturgis ride. Well, sort of looking forward to it. There was the snow issue that concerned me.

The FLHXSE's five-spoke, mirror chrome Aggressor



Custom wheels — 19" in the front and an attractive 18" hoop out back — remain with this midyear paint option, too. Their 130/60B-19" front and 180/55B-18" rear Dunlop Harley-Davidson Series tires handle flawlessly on dry pavement and, to my surprise, rather good in snow! So far, so good!

LED lighting front and rear is standard on all Street Glides. A Daymaker LED headlight illuminates the road ahead, and the FLHXSE's LED taillights are concealed in the fender's fascia, and they not only look cool, they provide an insane amount of visibility. Following three other CVOs through a Wisconsin white-out snowstorm was easy, thanks to those bright lights. Now that I think about it, though, how did the guy in front see where he (we!) was going under such conditions?

The sleek tank console with carbon fiber-style insert and CVO medallion is another sporty custom touch found on the midyear FLHXSE. The flush-mount, pop-up gas cap on the right flank certainly cleans up the lines of the gas tank, too.

Like the Street Glide Special, the CVO packs a 6-1/2" Boom! Box 6.5GT full-color touchscreen display in its gloss black inner fairing. There's also a convenient jukebox storage box with USB port, but the similarities end there. The

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Photo taken at the Sugar-n-Spice Diner, Spartanburg, SC

faired CVO models are treated to an upgraded 6.5GT radio that puts out 75 watts of power per channel (instead of 25) and has unique static and dynamic equalizers with a midrange DPS crossover to adjust the various functions for greater clarity based on volume and speed. It also has a 3-D navigation screen that displays buildings and structures when you zoom in. I didn't have many opportunities to play with the infotainment system, though. Most of my time was spent navigating the FLHXSE within the tire tracks in front of me so that I wouldn't drift off into the snow.

But I had an opportunity to use the authorized dealer locator feature that tracked our progress to the dealers we visited along our route to Sturgis. With a few gentle finger taps to the touchscreen (which works with fully insulated heated gloves, by the way), I accessed the nearest dealer as his contact information automatically popped up on the screen. In fact, the program displays information about Harley dealers up to 150 miles away. No doubt, a clever built-in emergency feature, but one you really hope to never use.

Astride the upgraded 6.5GT sits a pair of 6-1/2" Boom! Stage II three-way fairing speakers with a 300-watt dedicated front amplifier. This year, The Motor Company made the CVO Street Glide the poster child of its vast Boom! prowess, so a pair of external tweeters in the fairing ensures clear highs when breaking wind at highway speed. No, not that kind of wind, although the audio performance doesn't necessarily stop at the fairing. Each stretched saddlebag has a Boom! 5" x 7" three-way lid speaker powered by an



additional 300-watt amplifier tucked in the left saddlebag. Talk about power! What better test for such a system than to be riding 80 mph down an interstate in the middle of a snowstorm while wearing a full-face helmet and balaclava underneath? The tunes came through crystal clear at about 60 percent of maximum volume, and the aural performance only got better as I thumbed the volume joystick up.

The stereo isn't the only place where the sleek CVO puts out gobs of power: the 110" Twin-Cooled Twin Cam engine delivers

115 ft.-lbs. of torque at 3750 rpm. Acceleration is impressive in any gear, even in sixth where acceleration at around 75-80 mph rewards you with instant gratification as you motor smoothly forward with authority. The added torque proved to be a bonus in my riding conditions, allowing me to run the bike comfortably at lower rpm to avoid wheel spin. The Twin-Cooled engine package means that the FLHXSE must have fairing lowers to house the radiators and coolant reservoir, and those lowers also help neutralize foul weather conditions by shielding your lower legs and feet from cold and rain ... and snow. My ride through the Midwest snow and sleet could have been miserable without the CVO Street Glide's ample wind protection. It helped, too, that I wore Harley's new heated apparel; look for that review in an upcoming issue.

Like all CVO models, the FLHXSE's seat is trimmer than the bulky seats found on the regular Touring models. The stylish leather seat perches your butt 26.1" off the deck,

TECH SHEET • FLHXSE CVO Street Glide

Length:	96.7" (2455mm)
Unladen seat height:	27.2" (690mm)
Ground clearance:	4.9" (125mm)
Rake:	26 degrees
Trail:	6.7" (170mm)
Wheelbase:	64" (1625mm)
Engine:	Twin-Cooled, Twin Cam 110 (1801cc) with granite powdercoated powertrain and 110 Screamin' Eagle identifiers on cylinder heads
Compression:	9.2:1
Fuel system:	Electronic Sequential Port Fuel Injection (ESPFI)
Coolant capacity:	1.1 quarts (1.04L)
Transmission:	Six-speed Cruise Drive
Front tire:	Dunlop Harley-Davidson Series D408F 130/60B-19" 61H
Rear tire:	Dunlop Harley-Davidson Series D407T 180/55B-18" 80H
Fuel capacity:	6.0 gallons (22.7L)
Oil capacity:	4.0 quarts (3.8L)
Shipped weight:	836 pounds (379kg)
Gross Vehicle Weight Rating (GVWR):	1,360 pounds (617kg)
Front brakes:	Dual Reflex Linked ABS, fixed four-piston (32mm) calipers, 11.81" x 0.20" floating open rotors

Rear brake:	Reflex Linked ABS, fixed four-piston (32mm) caliper, 11.81" x 0.28" fixed rotor
Exhaust system:	Chrome 2-into-1-into-2 dual with tapered mufflers
Front forks:	49mm, telescopic, triple-circuit damping
Rear shocks:	Premium Low hand-adjustable
Front wheel:	Five-spoke Mirror chrome Aggressor Custom; 3.50-19"
Rear wheel:	Five-spoke Mirror chrome Aggressor Custom; 5.00-18"
Handlebars:	Stainless steel, wide set; Airflow Collection heated handgrips
Audio system:	Boom! Box 6.5 GT infotainment system with GPS and touchscreen; Boom! Stage II with two 300-watt amplifiers with static and dynamic equalizers and a midrange DPS cross-over, four 6" x 5" woven carbon fiber cone woofers, four 1-1/2" midrange polypropylene fiber dome speakers, four 1" aluminum dome tweeters; Bluetooth capability; jukebox media compartment with USB connection and One-Touch access door to jukebox
Colors:	Scorching Yellow/Starfire Black Flames, Ultraviolet Blue/Molten Lava Flames, Hard Candy Mercury/Smoky Quartz Flames, Starfire Black/Gold Dust Flames
MSRP:	\$36,349



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NEW BIKE REVIEW

so you feel as if you're sitting *in* the saddle rather than *on* the saddle, and the lower overall center of gravity helps promote rather friendly road manners.

Harley claims rear suspension travel of 2.15" from the FLHXSE's Premium Low rear manually adjustable shocks. The left-side twist knob is accessible by removing the saddlebag to crank the spring and damping rates up (firmer) or down (softer). The rear suspension is matched with 4.6" of up-and-down travel from the 49mm fork legs, and the combination produces a custom bagger that serves up a rather smooth ride for the highway with firm response through the turns.

This was my first experience riding a Project RUSHMORE Street Glide of any variety, and one of the first things I noticed was the improved lean angle compared to the pre-RUSHMORE Street Glides. All RUSHMORE Street Glides have a 31-degree left lean angle while the 2013 Street Glide that I last experienced offers only a 29-degree left lean angle; the right-side lean angles are both 32 degrees. This 2-degree difference may not seem like much, but the increase in turning room was noticeable right away.

Warm and welcoming sunshine greeted us upon our arrival at Sturgis. The occasion also included relatively warm temperatures and dry roads, which allowed us an incredible rip through the twisty Vanocker Canyon. The CVO, with its upgraded suspension, proved nimble and responsive, making this the most impressive 836-pound (dry weight) rolling sound system I've ridden yet. And the 110" engine rewarded me with snappy acceleration out of the turns. My kind of riding.

I've been a fan of the Street Glide model since I first rode one in 2011, and this 2015 CVO is the epitome of what that namesake represents. The FLHXSE Street Glide offers a sleek cruiser experience with the long-range comfort and capabilities of a more conservative Touring model. After 800 miles of riding in subfreezing conditions, my CVO test bike had gathered quite a bit of road grime. Even so, the ride proved that the CVO Street Glide is a capable foul-weather, long-haul motorcycle. And cleaned up after such a long ride, it makes for quite the eye-catcher for bike night or a stop at the local roadhouse. **AIM**



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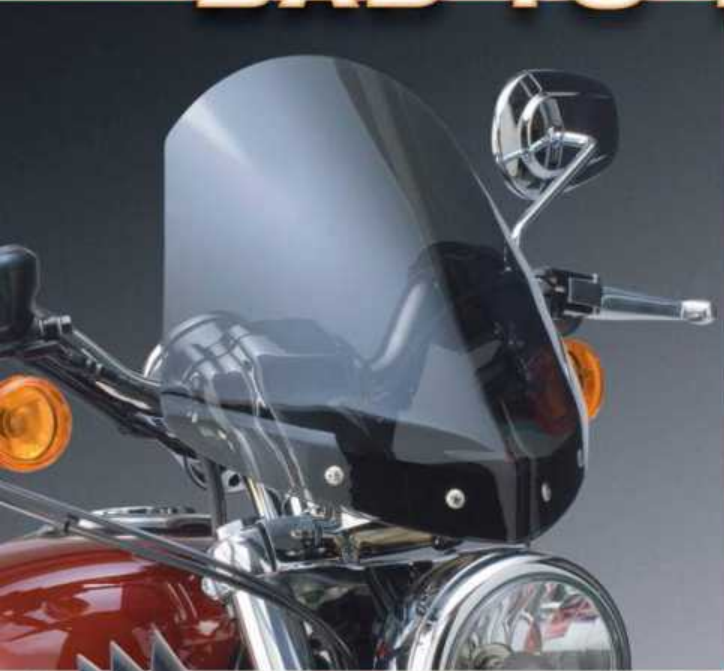
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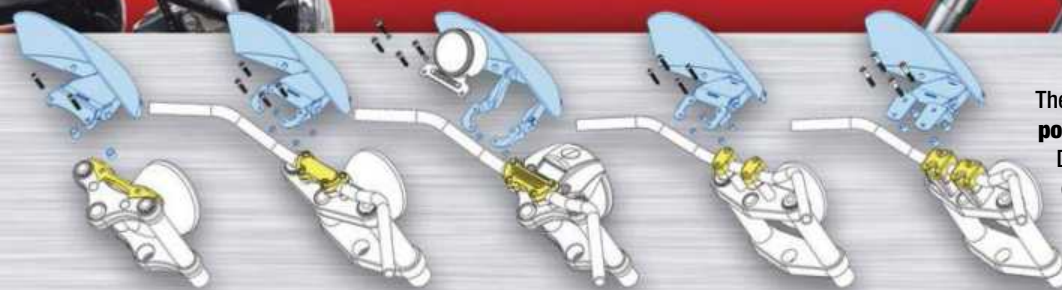
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Top-speed record holder Jody Perewitz's other bike



text by
wayne scraba

photos by
dino petrocelli

J

ODY PEREWITZ IS ONE FAST RIDER. Leader of Team J'Witz, she's perhaps best known as the fastest woman on an American V-twin motorcycle.

During her rookie season at the Bonneville Salt Flats in 2011, she rocketed into the land speed record (LSR) books with a blast over 200 mph. That particular bike is powered by a 100" Big Twin equipped with a ProCharger that's good for more than 200 hp. Her latest LSR bike, set to debut this year, has an up-graded powerplant, a 120" job that's force-fed with a turbo. More records? We'll see!

Jody's day job is working as a marketing manager for Perewitz Cycle Fab. Essentially, though, she and her famous father, Dave Perewitz, run the shop together. And as most Harley riders know, Dave is one of the world's pre-eminent painters of custom motorcycles. He's also recognized for his custom builds and, of late, his superb vintage motorcycle restoration work.

That brings us to Jody's Candy Blue and (almost) purple Dyna. Think of it as her other bike, the one not capable of 200 mph. After Jody sold her Road Glide that she had been riding for a few years, she figured it was time for a more lithe ride, say, a Dyna or FXR. One thing led to another, and it wasn't a day later that Dave found a perfect 2014 Dyna Low Rider. A busy work schedule forced the bike to sit during the first part of winter 2014-15. That changed a month or so before Daytona Bike Week when the Perewitz crew blew the bike apart to start the build.

She had a prestructured theme: foremost, the new bike had to project the standard Perewitz flash factor. It also had to be nimble, handle like it was on rails, and be reliable. And as further incentive, she wanted it to break some of today's motorcycle stereotypes, which we'll talk about later.

First order of business was to swap the stock triple trees for a set of Hawg Halters Inc. (HHI) trees with 5 degrees more rake. The objective was to fit a 21" wheel up front. The stock 49mm fork tubes remain.

Next, Jody peeled out the stock steel swingarm, replacing it with a cool fabricated aluminum job from Brock's Performance. This swingarm increases the wheelbase up to 6". The Brock's swingarms are TIG-welded using 6061-T6 extruded aluminum that has billet aluminum axle adjusters to fit 25mm, 1", or 28mm axles. The entire package weighs a mere 15 pounds, which is roughly half the weight of a stock swingarm setup. Remember when we said this bike is going to break some of today's stereotypes? That's one of them.



There are more.

The wheels are actually high-end BST carbon fiber models (also from the Brock's stockpiles). The front is a 3.50-21" hoop that tips the scales at a mere 8.85 pounds. The rear 5.50-17" wheel checks in at 9.8 pounds. The combination creates an incredible improvement in the bike's unsprung weight, which is important when trying to improve a bike's handling performance. Factor in the weight savings from the aluminum swingarm, and you can see how Jody's bike is distancing itself from other customs. And, by the way, the rear wheel has a static load rating of 640 pounds while the front has a load rating of 440 pounds — a margin that's more than safe for a one-up streetfighter such as this. But I digress. Front and rear tires are Avon Cobras.

Brakes are far from the norm, too: the rotors are Lyndall Brakes' Lug Drive full-floating composite design. Each rotor consists of an extremely light friction ring (CNC-machined from functionally gradient metal composite material)

attached to carriers machined from 6061 T6 billet aluminum that's locked in place with 302 stainless spiral retaining clips. The four-piston brake calipers (two up front, one in the rear) are from HHI. Hand and foot controls remain stock items while the pegs are from San Diego Customs. And the handlebars are Westcoast-Tbars MX-Tbars with an 8" rise.

As for power, Jody left the Big Twin engine pretty much stock. The Roland Sands air cleaner gives enough styling attitude to complement the 2-into-1 exhaust system by Sawicki Speed Shop in British Columbia that was fabbed from raw, brushed stainless steel. Internally, the exhaust incorporates a hand-ported merge collector, similar to what's found on high-end race bikes or NASCAR Sprint Cup racers. The balance of the machine's powertrain also remains stock, save for a chain swap in place of the familiar final drive belt.

As for tin and plastic body panels, Jody replaced the front fender with a tire-hugging Russ Wernimont Designs piece. The



Perewitz crew modified the rear fender, and fashioned all-new struts for it, too. The fairing is another part from Perewitz, and certainly adds to the bike's attitude. As for lighting, Jody selected a Headwinds front light and a Custom Dynamics LED setup for the rear. The seat is a new Jody Perewitz signature solo saddle from the folks at Mustang.

Now let's talk paint, the ingredient that the Perewitz name became famous for in the first place. From the get-go, Jody wanted to paint the bike with her dad, Dave. She told him, up front, that the machine would not (and could not) have any of Dave's trademark flames! Instead, she wanted to turn the clock back in time to use some of Dave's 1960s and '70s fancy lace and big-flake schemes. The color (not the actual colors, but the shades) was another sticking point. Jody wanted it all



dark. Dave wanted some light tones. Turns out that father knows best because Dave won that round. And anything that wasn't painted was powdercoated by the folks at D&T Powder Coating in nearby Pembroke, Massachusetts. Chrome? You'll have to look hard to find any.

So, finally, what's with the 264 emblazoned on the right-side flank? The answer is two-fold. The number 264 is the street address where Jody grew up. It's also the competition number she selected for her race bike, so it pays homage to both.

In the end, Jody built this bike to be a rider. She's ecstatic about the way it runs, stops, and carves corners. No doubt,

it's a different take on custom Harleys, a machine you just know you want to ride. And we're pretty sure Jody knows that, too. **AIM**

TECH SHEET •

Owner: Jody Perewitz
Builder: Perewitz Cycle Fab, Bridgewater, MA
Year/model: 2014 Harley-Davidson Dyna Low Rider
Time to build: Matter of weeks
Powdercoater: D&T Powder Coating, Pembroke, MA
Painters: Dave and Jody Perewitz, Perewitz Cycle Fab
Color: PPG Candy Blue mix

POWERPLANT

Engine: 2014 Harley-Davidson Dyna
Builder: Stock
Displacement: 103"
Cases: Stock
Flywheels: Stock 4.374"
Cylinders: Stock 3.87"
Pistons: Stock 9.6:1
Heads: Stock
Cams: Stock
Rockers: Stock
Lifters: Stock
Pushrods: Stock
Carbs: Stock EFI
Air cleaner: Roland Sands Design
Exhaust: Sawicki Speed Shop
Ignition: Stock
Charging system: Stock
Oil pump: Stock
Transmission: Harley-Davidson six-speed Cruise Drive
Case: Stock
Gears: Stock
Clutch: Stock

Primary drive: Stock chain
Final drive: Chain conversion

CHASSIS

Frame: 2014 Harley-Davidson Dyna
Rake: 34 degrees
Front forks: 49mm
Mods: Hawg Halters Inc. (HHI) plus 5-degree triple trees
Swingarm: Brock's Performance
Front wheel: Brock's Performance BST 21"
Rear wheel: Brock's Performance BST 17"
Front brakes: HHI dual four-piston calipers/Lyndall Brakes rotors
Rear brake: HHI four-piston caliper/Lyndall Brakes rotor
Front tire: Avon Cobra 21"
Rear tire: Avon Cobra 17"
Front fender: Russ Wernimont Designs
Rear fender: Perewitz Cycle Fab
Fender struts: Perewitz Cycle Fab

ACCESSORIES

Headlight: Headwinds
Taillight: Custom Dynamics
Fuel tank: Stock
Handlebars: Westcoast-Tbars MX-Tbars, 8" rise
Seat: Mustang Jody Perewitz Signature
Pegs: San Diego Customs
Speedo: Stock
Dash: Stock
License bracket: Custom Dynamics
Hand controls: Stock
Foot controls: Stock



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Rolling Thunder XXVIII

Thunder from the roar of 350,000 motorcycles

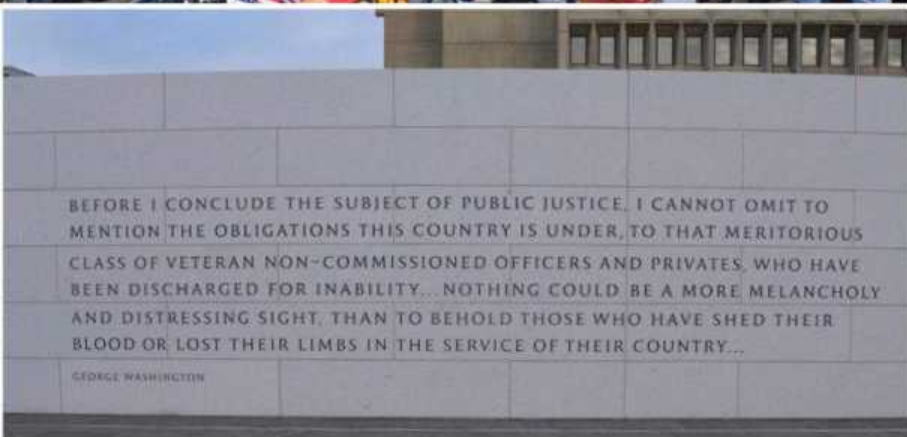
ROLLING THUNDER XXVIII MAY HAVE BEEN the largest Rolling Thunder ever! Despite chilly, wet, 48 F weather on Thursday, May 21, Friday brought promising conditions for the duration of the weekend, with temperatures in the low 70s.

Fortunately, Thursday afternoon's rain stopped in time for the annual Flags In ceremony at Arlington National Cemetery in Arlington, Virginia. Flags In is the placing of an American flag by members of the 3rd Infantry Regiment, The Old Guard, before every headstone. By 4 pm, each of the 260,000 headstones had an American flag placed on the center of the headstone and 1' out. Hand salutes are rendered by the flag bearers at the headstones of Congressional Medal of Honor recipients. Sometimes, though, headstones are saluted by members of the 3rd Infantry even though the fallen hero didn't receive a Medal of Honor; those salutes signify that the person placing the flag knew the fallen hero. That was witnessed too many times this year. Army chaplains place flags at the four religious memorials and headstones located on Chaplains Hill in Section 2.

The first-ever Rolling Thunder, or The Ride for Freedom, began with 3,000 bikers, and has now grown to over 350,000 bikers and a million people cheering them on. Initially, The Ride for Freedom primarily acknowledged the POW/MIAs (prisoners of war/missing in action) of Vietnam and all wars and that our government should be accountable for those names. Most recently, though, Rolling Thunder has also taken up the fight for veterans' health care, in particular those who served in Iraq and Afghanistan. Veterans paid dearly with their blood and the blood of their buddies for those rights. Veterans' benefits should never be on a delete list.

Today, Rolling Thunder is at a crossroads in its life, as Artie Muller, the president of Rolling Thunder, acknowl-





edges. The simple fact is that each year, the Vietnam-era veterans are dwindling in numbers, and there must be younger people — veterans from Iraq and Afghanistan — to take up the pace. If Rolling Thunder XXVIII is any indication, this is, indeed, happening.

At 5 pm on Friday, a thunderous roar from the front of the Washington National Cathedral filled the air. About 250 bikers wearing black leather vests, boots, and jeans, dismounted from their bikes. They were here to receive the blessing of the bikes on behalf of all the bikes and riders in Rolling Thunder. Reverend Gary Hall, dean of the Cathedral, and other clergy members conduct the ceremony. When I good naturedly mentioned to one of the attending clergy about the bikers' attire, she said "I understand what you mean, but all too often, people do not realize it is the character behind the clothes that matter, and these bikers — these veterans — humble all of us."

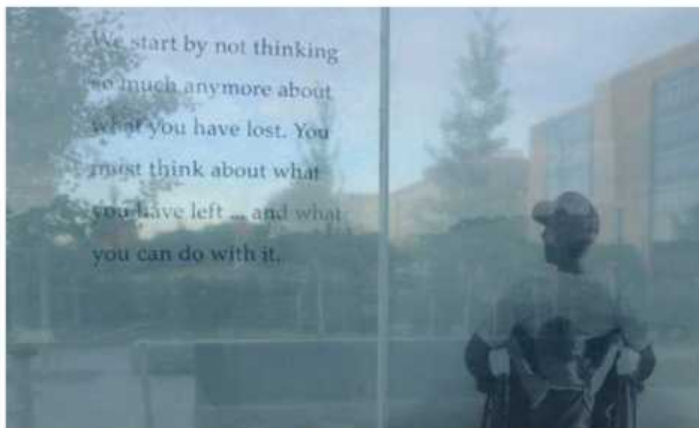
Saturday remained cool and dry, and at 6 am, the temperature hovered in the low 50s. Three women could be seen drinking hot coffee near the new American Veterans Disabled for Life Memorial. A photographer was annoyed that they were in the background of a picture he wanted to take. An hour later, a National Park Service officer approached the women, giving each a long squeegee with a soft rubber end. This is Park Ranger James Pierce, who demonstrated how to use the squeegee. I asked James about the squeegees.

Despite all the planning that went into the memorial and the reflecting pool, the engineers never considered that algae might form on the pool's bottom. So once a month, volunteers come to gently scrub the bottom and sides of the shallow pool. James continued, telling me and my friend about the memorial, and it's obvious he has a very deep affection for it. I mentioned that he considers this to be more than just a job. He slowly tapped his left leg, generating a hollow sound. James lost his leg in Afghanistan. James is also responsible for the Vietnam Veterans Memorial where he displays as much pride in his work.

All day Saturday, a procession of visitors fed the Vietnam Memorial, with tens of thousands of bikes parked on the grassy fields adjacent to The Wall. If you didn't know better, you'd think it was Rolling Thunder, which was actually scheduled for Sunday. Saturday affords many veterans and the families of those veterans living on The Wall a more leisurely time to walk the hallowed valley of The Wall. They quietly speak to their buddy, father, brother, uncle, or loved one, telling them everything that has happened the past year. Many visitors touch their loved one's name on The Wall, as if to make lasting contact with him.

Shortly after noon, riders walked down the path to The Wall, heading right for the apex, which is the center of the large black piece of polished granite. They were there to lay a wreath and plaque for their buddies living on The Wall.

The plaque reads: "God, please take them to your home."



An advertisement for Shinko Motor Vehicle Tires. Two tires are prominently displayed in the foreground on a paved road. The background features a scenic view of a winding road through a mountainous landscape with a river and a bright sunburst effect behind a peak. The Shinko logo is at the top.

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They were the men and women who stood alone. Forgotten by a country that couldn't welcome them home."

By 8:15 am on Sunday morning, the Pentagon's parking area was awash in chrome and American flags. There were more bikes at this time than at 10 am in previous years, an indication of how big this Rolling Thunder was.

One Harley I saw near the front of the line at the Pentagon bears the name "Gary Wetzel Medal of Honor" on it. Gary has been riding Rolling Thunder since 1993. Riding with Gary was Gold Star Mother Jill Stephenson to honor her son, Cpl. Ben Kopp, who made the ultimate sacrifice July 18, 2009.

At noon on that clear day, the boom of Thunder began. The ground trembled, but there was no rain. Only thunder from the roar of 350,000 motorcycles preparing to embark on the ride across Arlington Memorial Bridge, down Constitution Avenue, before heading back to the grassy fields near the Vietnam Veterans Memorial for the final stop to visit The Wall. For four hours, motorcycles four to six abreast travel this route. Among the first bikers to cross the bridge were Wetzel and symbolically on his left Congressional Medal of Honor recipient Leroy Petry. Petry lost his right hand in Afghanistan; Wetzel lost his left arm in Vietnam.

As the bikes entered 21st Street, standing tall on the concrete median, dressed in his crisp Marine dress uniform and giving a firm hand salute, was Tim Chambers. He doesn't move from this spot until the last bike rolls safely down 21st Street. Tim does this for his fallen buddies and all fallen heroes from all wars.

Kneeling in front of Tim, gently holding a pair of dog tags hanging from an inverted rifle between a pair of jungle boots — the battlefield memorial — was US Army veteran Eric Cantu.

From the sanctity of a stage set up near the Lincoln Memorial Reflecting Pool opposite the Lincoln Memorial, people gave short speeches about veterans, those killed in combat, and the thousands of veterans still unaccounted for. One of the speakers was actor Robert Patrick who rode his Harley from LA along with his buddy New York Myke. Robert talked about this country, our government, and its debt to members of the military and veterans. Veterans should never be forgotten, along with members of the



military who serve this great nation, he said. Throughout the year, Robert quietly goes about assisting America's wounded warriors, so today is unlike most other days when he helps.

On Monday morning, there was the annual gathering of family and friends of the Fallen Heroes resting in Section 60 at Arlington National Cemetery (ANC). Section 60 is a recent addition to ANC, which is composed primarily of personnel from the wars in Iraq and Afghanistan. Families spread blankets and tables to celebrate the lives of particular names on headstones. Young children are reminded that the names on the headstones are of a fallen father, mother, uncle, aunt, or loved one and that America "should never forget them or what they did."

At 1 pm the same day, there was a ceremony at The Wall commemorating the limited edition National Medal of Honor Forever Stamp. In the audience were 11 Medal of Honor recipients from Vietnam.

The keynote speaker, Medal of Honor recipient Jack Jacobs, like all recipients, truly feels he didn't do enough, and did nothing that any other soldier would have done for his buddies. Perhaps Medal of Honor recipient Major General Patrick Brady (Retired) said it best when he humbly related: "We wear this medal to represent all those who were with us and did things far greater than we did, but no one saw it." Nobody saw, but we will forever watch over them. **AIM**



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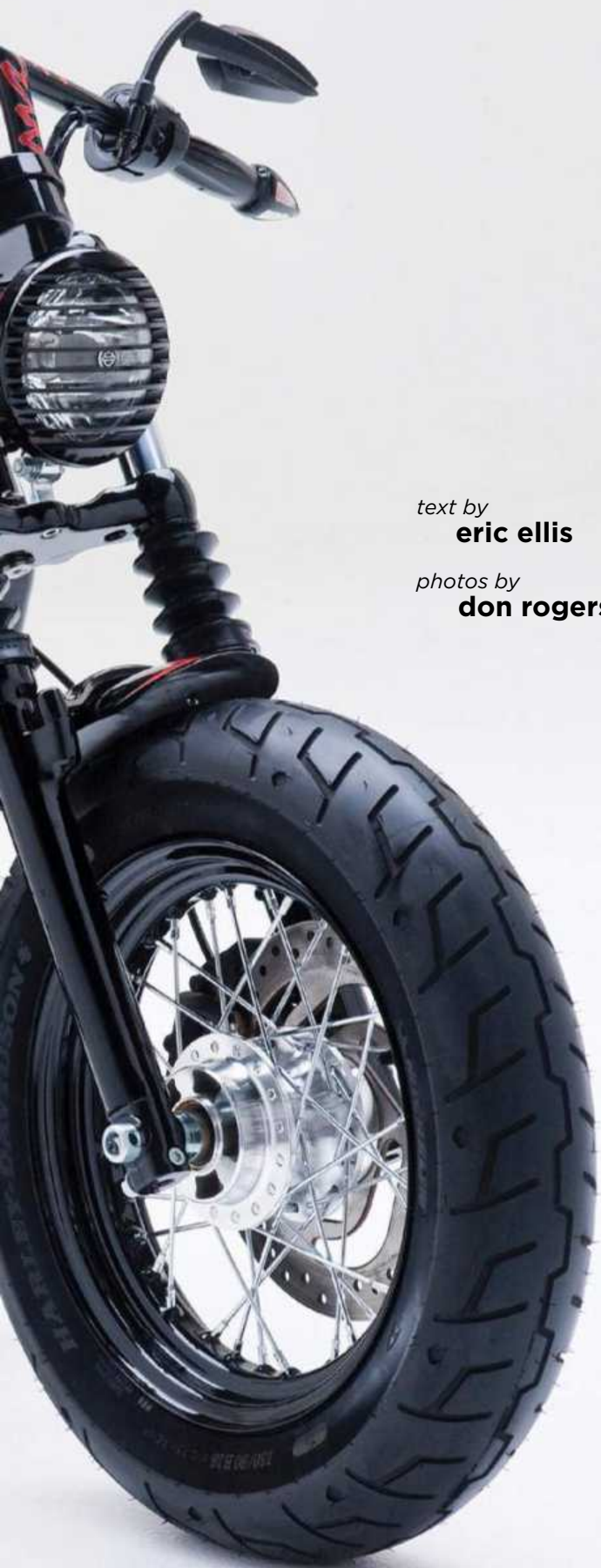
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text by
eric ellis

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Billion Dollar Baby

A custom with XL principles and class

THERE ARE PLENTY of places to get inspiration for a custom motorcycle build, but a charity auction usually isn't one of them. Even so, that's where the idea for this radical Sportster came from. It started back in January 2014 when Mr. Norelli was at the Mecum Auction in Kissimmee, Florida. Among the customs up for auction was a trike, with the proceeds from its sale going to charity.

A charity auction bike appealed to Mr. Norelli because he was in the process of establishing the Norelli Family Foundation. He figured that building a custom bike through his foundation could not only help raise funds for charities, but raise awareness for those charities, too. So while watching the bidding at the Mecum Auction, Mr. Norelli decided to have a custom bike built and be auctioned off at the same event the following year.

Mr. Norelli left the build itself to a highly capable team that he drafted from his assorted businesses. The team consisted of Peter Fenninger as project manager, Matt Leyen overseeing graphic design, Rodger Shamblin tasked with the bike's mechanical design, and Eric Klenk in charge of the build and assembly. Along with a skilled build team through Mr. Norelli's various companies such as Shadow RT, the

crew had access to a host of fabrication equipment to make the build process much easier.

Rather than building a ground-up custom, a brand-new Harley-

Davidson Forty-Eight Sportster served as the basis for the project. Aside from being a highly versatile platform that plays well to a variety of build styles, a new bike ensures that a dependable drivetrain with a full warranty also awaited the highest bidder.

There's a lot to visually take in on this bike because it boasts plenty of detail work. For instance, the swingarm was stretched 5" to blend in with



the custom rear fender and integrated oil tank; Peter's team used a piece of 14-gauge steel to create the underside of the fender before welding the new assembly to the swingarm. They also created a skeleton for the fender's top section using pieces of 3/16" steel rod. This also formed the oil tank at the front portion of the fender where the team used sheet metal to seal up the oil tank before adding metal over the exposed skeleton to create a 3-D fender. Make no mistake, this isn't a bolt-on aftermarket piece.

But with the stock fender mounts gone, there was no place to bolt the stock rear suspension. The solution was to incorporate a single coil-over shock mounted between the front of the swingarm and the underside of the



seating area. The single-shock absorber assembly is so discreetly mounted that it takes a keen eye to notice that there's even rear suspension on the bike.

But there was even more work to be done to the rear section. First, the team hammered a new seat pan, and the exposed area below was boxed in with handcrafted sheet metal to create a more uniform look with the rear. The team fabricated an Axed Alien-style gas tank that was then Frisco-mounted over the backbone, and side panels were welded along the bottom to conceal the external fuel pump. The new side panels also help minimize the gap between the engine and exposed backbone. The net result gives the bike an exaggerated dropped-seat look.

While the build team focused on completing the bike, Mr. Norelli lined up two charities to receive the future proceeds from the forthcoming auction. The charities he chose were New Hope for Kids, based in Maitland, Florida, and Alice Cooper's Solid Rock, located in Phoenix. And, yes, it's *that* Alice Cooper, so there was now a celebrity name attached to the project.

Buoyed by the Alice Cooper name, the bike



gained a common theme, and to that effect, custom painter Chris Cruz worked his magic. Chris laid down a Candy Apple Red basecoat before spending countless hours dressing the body panels with airbrushed renditions of Alice album covers from the 1970s. Perhaps the most eye-catching piece is the *Raise Your Fist and Yell* cover, with the hand visually ripping through the gas tank's metal surface. As a bonus, Alice autographed the gas tank. Clearly a fistful of Alice for the bike's future owner.

In addition, the team created unique one-off covers for the derby, air cleaner, and points covers. The covers were milled out of billet aluminum and anodized before being laser-engraved with the *Billion Dollar Babies* album cover art.

After an intense 15 weeks of building, the team put the finishing touches on the project. The modified Sportster was given a custom jockey shift setup, and the Biltwell Keystone handlebar has accessory handgrips with integrated turn signals. Finally, a Vance & Hines/Roland Sands Design Tracker 2-into-1 exhaust helps account for the engine's melodic tones, appropriate for this rock and roll tribute.

Promotion for the charity bike went very well, receiving plenty of preauction attention at several prestigious events throughout Florida before the Mecum Auction itself. Finally, the bike was rolled to the forefront of the auction arena, and when the auction-

eer's gavel dropped, bidding peaked at \$30,000. The money, of course, went directly to the two chosen charities.

As you can imagine, Mr. Norelli is proud of the bike, his team's hard work, and the money his foundation raised for the New Hope for Kids and Alice Cooper's Solid Rock charities. "My team — Peter, Eric, Matt, Rodger, and I can't *not* mention Chris Cruz — created a custom motorcycle that was beyond my expectations. I couldn't be happier," Mr. Norelli says. No doubt, the bike's winning bidder probably feels the same way. **AIM**



TECH SHEET •

Owners: Norelli Family Foundation
Builders: Peter Fenninger, Eric Klenk, Rodger Shamblin
Year/model: 2014 Harley-Davidson Forty-Eight Sportster
Time to build: 15 weeks
Painter: Chris Cruz, Chris Cruz Artistry, Deland, FL
Graphic artist: Matt Leyen
Colors: Candy Apple Red/black

POWERPLANT

Engine: 2014 Harley-Davidson Evolution
Builder: Harley-Davidson
Displacement: 74"
Cases: Stock
Flywheels: Stock
Balancing: Harley-Davidson
Connecting rods: Stock
Cylinders: Stock
Pistons: Stock
Heads: Stock
Cams: Stock
Lifters: Stock
Carb: Harley-Davidson fuel injection
Air cleaner: Shadow RT
Exhaust: Vance & Hines/Roland Sands Design Tracker 2-into-1
Ignition: Stock
Charging system: Stock
Points cover: Shadow RT
Derby cover: Shadow RT
Transmission: Stock five-speed
Case: Stock
Gears: Stock

Clutch: Stock
Primary drive: Stock
Final drive: Chain conversion
Mods: Tensioner, fabricated by Shadow RT

CHASSIS

Frame: 2014 Harley-Davidson Sportster
Front forks: Stock/Harley-Davidson fork boots
Swingarm: Stock, stretched 5"
Shocks: Monoshock, customized
Front wheel: Stock 16"
Rear wheel: Stock 16"
Front brake: Stock
Rear brake: Stock
Front/rear tire: Stock
Front fender: Shadow RT
Rear fender: Shadow RT

ACCESSORIES

Headlight: Stock with accessory grille
Taillight: Harley-Davidson V-Rod
Fuel tank: Shadow RT
Oil tank: Shadow RT
Handlebars: Biltwell Keystone
Seat: Shadow RT seat pan/Hunt's Upholstery & Interiors, Deland, FL
Pegs: Stock
Speedo: Stock
License bracket: Led Sled Customs LEDs
Hand controls: Accessory grips with integrated turn signals
Foot controls: Harley-Davidson
Levers: Harley-Davidson

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Pate Swap Meet

*If it has anything to do with transportation,
it was at the Texas Motor Speedway*

WE'VE ALL HEARD HOW EVERYTHING IS big in Texas. Well, I'm happy to say that it also holds true for vintage bike and car swap meets! As clichéd as that sounds, it doesn't change the fact that it's true. I saw many cool parts, bikes, and cars at the Pate Swap Meet in Fort Worth! But that's not all. There were also antique gas pumps, signs, and a ton of other stuff I've either heard about or seen on TV shows like *American Pickers*. If it has to do with transportation, it was there. The Pate organizers wanted to have motorcycles as a part of their event for many years, but couldn't attract anybody who wanted to organize it. That is, until the Cherokee Chapter (CherokeeAMCA.org) of the Antique Motorcycle Club of America (AMCA) offered to bring vintage and classic motorcycles to the party.

My host for this event was respected collector Steve Klein, a member of the Cherokee Chapter and one of the people responsible for combining motorcycles with the already prestigious Pate Swap Meet (PateSwapMeet.com). When I asked Steve what they had on hand for the motorcycle section of the event, he told me "Chris, we have 381

vender booths. There are 126 bikes in the show today, and that number will double by tomorrow, Friday. The oldest bike in the show is a 1903 Rex; we also have a 1908 Thor. There are bikes here from the teens, '20s, '30s, '40s, '50s, '60s, '70s, and '80s. There's a period-modified class with bobbers, choppers, and customs. There's also a lightweight



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class with Cushmans, Mustangs, and Vespas.”

This was the first year where there was a section for motorcycles. The event started at Pete Pate’s farm when a bunch of Pete’s friends had a barbecue and brought their street rods, hot rods, and pickup trucks. The event now has over 11,000 venders with close to 150,000 people attending during the event’s four days. The Pate Swap Meet has cars and trucks from the steam and brass eras, 1920s, ’30s, ’40s, ’50s, ’60s, hot rods, rat rods, street rods, muscle cars, trucks, and almost anything else on wheels, even bicycles. On the motorcycle front as you can see in the photos, there are also lots of vintage and classic motorcycles, with a heaping help-

ing of vintage parts to help you with whatever project you have in mind. Everyone I met and talked with was friendly and helpful even if I wasn’t buying anything. These are enthusiasts who love what they do, and it shows. Even the weather cooperated! There was no rain, with temps in the 80s during the day and in the 60s at night, with a light breeze and white, puffy clouds overhead. In a word, perfect!

This event has been going on for 42 years, and the people in charge really have it dialed in. It’s well-organized with great security, an important factor, considering the rare and expensive motorcycles, cars, trucks, and parts for sale and on display. The Pate Swap Meet should definitely be on your short list of events to attend if you’re into vintage and classic vehicles, parts, and memorabilia. Next year’s event will be at the same spot, the Texas Motor Speedway, a NASCAR facility, in Ft. Worth, from Thursday, April 28, until Sunday, May 1.

It’s worth the trip! **AIM**



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- Selectable multi-spark mode for quick starting and smooth cruise
- Coil outputs protected against short circuits
- Optional PC Link cable and software for programming custom advance curve
- Billet aluminum housing with black anodized finish

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Model 1007 has an 8-pin connector and is intended for 1995-1999 HD Motorcycles.*

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FULL CIRCLE

Legacy of a Panhead

IT'S COMMON KNOWLEDGE THAT THE LONGER YOU'RE WITH something, the less likely you'll notice it change, especially if the alterations are subtle, few, and far between. Unless you're some kind of sorcerer. But when it comes to motorcycles, these changes are easy to spot, especially when they're done to Harleys because, as proclaimed on the cover of this magazine, "People who love Harley-Davidsons" are hard to get anything by. Even small add-ons (like the skull on this 1961 Duo-Glide Panhead's left-hand shifter setup),

miniscule changes in hue (unlike this Pan's Candy Tangerine Orange over ghost flames), or minor extending of the forks (also not the case on this Harley's 6"-over front end) will never be overlooked by H-D enthusiasts.

It just so happens that when it comes to this Panhead, we have someone on hand who last saw the bike



when it was mostly stock as a Duo-Glide. That would be *American Iron Magazine's* editor Chris Maida. The current owner, John Feola, recalls his time with Chris and when he first got the bike "back in the early '70s when we were just pups, and we were hanging out, riding bikes, and building them." And for the sake of how awesome John's nickname is, I will share certain mods earlier than I usually do so that I can refer to him as such for the duration of the article rather than just plain "John." People call him "Dragon John," hence the dragon painted on the front fender, the ghost flames throughout (dragons spout fire for all of you who, for some reason, didn't know), the flames stitched on the Corbin Gunfighter seat and flames on the handgrips, and the one-off dragon on the sissybar that was originally a handle from an old cast iron ashtray whose eye Dragon John replaced with a rhinestone. Yes, Dragon John has an affinity for dragons. In other words, this bike has gone through some major changes, and Chris would therefore undoubtedly notice them all. But seeing as Chris is a busy guy, we're going to have to imagine his surprise.

Whether Dragon John was known as Dragon John when he and Chris hung out and whether or not Chris called him that will have to remain a mystery, too. What's important (and also isn't ambivalent), as Dragon John said to me verbatim, is that, even though he and Chris lost contact over the years, the bike "has come full circle back to Chris' attention after 35-plus years," which is pretty remarkable. "It is a legacy of a Panhead." Hence the titles of



this story. Who am I to word it any other way?

But before this Panhead could reach any sort of legendary status, it had to first be purchased, and, as it turns out, Chris was the one who made the deal possible. "Chris turned me onto this bike," Dragon John remembers. "Some old man was selling it, and Chris knew I wanted to get into a bigger bike, and I had picked up that dog for \$1,500 bone-stuck under Chris' find. He would rather see me enjoying myself on it than make a profit."

Of course, hindsight being 20/20, Dragon John wishes that he had kept the bike stock. It was, as he says, "blue and white with the windshield and bags, the white handgrips, two-tone horse saddle seat," — pogo, of course — "the spotlights, the sickle lights, not a lot of chrome, just the basics from the factory." Dragon John says it would have been "worth its weight in gold and still been a great bike because it had the original grease fittings from the factory. It was so pristine." In fact, the guy from whom Dragon John bought it still had the original 1960s owners manual for the bike. "It's done in cartoon drawings, almost," adds Dragon John.

That said, Dragon John kept key features that identify his custom as a Panhead-era bike. It's a specific-era custom resto project with the majority of its modifications completed back in the day when Panheads were still relatively new. Changes done from that period are comparable to someone today slapping a 26" front wheel onto a bagger. As Dragon John says, "It's set



Got a bike you think belongs here? Well, send it to ReadersRide@AmericanIronMag.com or Reader's Ride, c/o *American Iron Magazine*, 1010 Summer Street., Stamford, CT 06905. Be sure to send a few digital images showing both sides of the bike shot the same way we do a bike feature, as well as some shots of you with the bike. We'll also need full contact info for you, including a daytime phone number. Sorry, images will not be returned.



up like a '70s version of a custom Glide" because, well, it was mostly modified in the 1970s.

"With a Panhead, it has to stay within the theme of the era," touts Dragon John. Some of these period-correct parts include the original powerplant "because I wanted to keep it reliable internally. It's got a mild cam and it's got the S&S Super E carb, but it's not big-bored or super-worked out," he says. The bike still includes its old foot boards, generator charging system (although it jumped from 6 volts to 12), the iconic star decal on the tank, and the front and rear bumpers, which, according to Dragon John, "you don't see that much anymore." All of this is exemplified by what normally comes with age and especially use: "there are some nicks and scrapes here 'n' there, like the pipes are blackened up front, loaded up a little bit." But even after all these years, it's still running well, only requiring wrenching now and then. It's like Dragon John says, "a legacy of a Panhead."

While some changes to the bike took place while Dragon John was still living in New York, once he moved south to Florida, he took further steps to acclimate his Pan to the area. "The bike is where it is because of Florida riding conditions," he relates, insinuating that it gets rather hot in the Sunshine State. "I took the shield off, all of the dresser stuff, and loaded it like a custom Glide. I didn't need all of the bags."

So other than stripping parts off, what are these personal flairs? Among the more impressive mods are the aforementioned blackened-up, loaded-up pipes, which, to further articulate their awesomeness, Dragon John said were "painstakingly bent" before they were "done just right" and welded with the front section of the pipes and the fishtail extensions. But there's more to these pipes than just having a crazy upswept angle. The fact that they were installed on a swingarm bike should convey a sense of how difficult it must have been since the pipes must work in compliance with the

rear shocks without compromising their mobility. "The brackets are mounted to the fender struts," explains Dragon John, "which keep the pipes supported, but you're still able to move up and down with the swingarm on the rear section, so they pivot and work with the shocks, and the pipes stay put." That's the key. The swingarm and rear shocks need to move but the pipes can't move (for obvious reasons). "There is really close clearance, but they work. It just takes a little thought and engineering," he adds.

One of the miniscule, albeit "mind-blowing," "innovative" mods was done after receiving some advice from an old man about popping the clutch unexpectedly. Basically, what you see on Dragon John's bike is a 1961-era setup with an old tank shift bolted to the mouse trap or a spring-loaded assist (when you squeeze on the clutch lever, it helps ease with the pull of the clutch"), and the cable is connected to the mouse trap and goes up to the left-hand lever. Well, Dragon John got to test it out himself firsthand after his clutch broke. "You just pull the tank shifter back, and it engages the clutch, and you throw your gear with your foot and you clutch it with the shift. It's a little crazy off the line at a light, but once you're going, it's just like a shift." Among other personal flavors include a Yuasa battery residing inside the wrap-around horseshoe oil tank's well, steel-braided oil lines, and 16" apehangers that were drilled for internal wiring.

If you like this bike, you should thank the inmates at the prison where Dragon John works. See, most of them subscribe to *AIM*. And after Dragon John finally put two and two together that Chris is the editor ("I'll be damned he doesn't look like how he did when we grew up. He had long hair and a beard"), they kept on insisting Dragon John send in photos of his bike. "They were pushing me and pushing me," he recalls. "Oh, boss! You really got to get a hold of him!" And because of their insistence, we get to enjoy this Panhead's legacy. Thanks, guys! And, of course, we have someone else to thank: "Other than that, yeah, that's my ride. It's been my ride for 30-something years, thanks to Chris." **AIM**

"It's a little crazy off the line at a light, but once you're going, it's just like a shift."

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BIKER'S CHOICE REBUILD

Part II: Our 1998 Evo Road King's swingarm gets a Custom Cycle Engineering upgrade

**Motorcycle
BAGGER**

Here's our 1998 Evo Road King up on Chuck's lift with the engine out, which you don't have to do, and the tranny propped up on a jack, which you should do no matter what. The rear wheel is also removed from the bike.

A COUPLE OF ISSUES BACK, WE STARTED A NEW project bringing a 1998 Evolution-powered Road King back to its original safety standards and functionality. Actually, where possible, we're improving on the old King, not that it needs much of that. In essence, our carbureted King is what some might call the perfect motorcycle. There are no computers, few sensors, and it uses a basic electronic ignition system. Its heavyweight chassis, 80" motor, and five-speed transmission offer some of the same touring experience that a brand-new one does. Just without all the bells and whistles, and at a fraction of the price.

The point of this project is to show how to turn one of the best deals in used Harleys (1995-98 Road Kings) into a dependable rider while getting everything we need from one convenient source: Biker's Choice (BC). At 1,819 pages, the 2015 BC catalog is chock-full of just about everything you need for your Harley. We didn't exactly set a budget for this project, but the BC catalog features tons of quality parts that allow you to follow the same general procedures we're doing at whatever budget or pace you're comfortable with.

With the front wheel rebuilt and rolling on a new Dunlop wide whitewall, it's time to turn our attention to the rear. At

the very least, the bike will be easier to roll around the shop. The rear end of the Road King is getting a well-worth-it upgrade with a Custom Cycle Engi-

TOOLS NEEDED

- Blue Loctite
- Red Loctite
- 3/16" Allen
- Brass hammer
- Brass punch
- Long prybar
- Flat-bladed screwdriver
- 5/8" socket
- 3/4" deep socket (two)
- 1-1/2" special socket
- Torque wrench (in-lbs.)
- Torque wrench (ft-lbs.)
- Large open spacer
- Hydraulic press ■



2 Chuck starts the upgrade by removing the chrome end caps, one per side, using a flat-bladed screwdriver. These will be reused.

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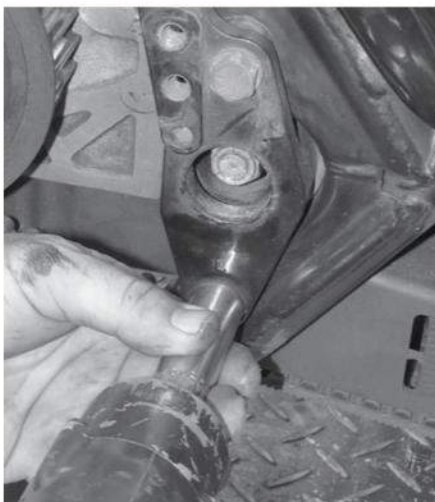
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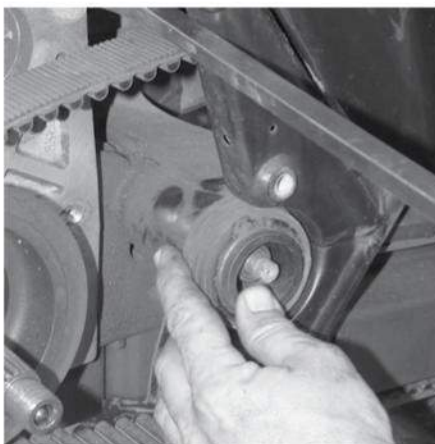
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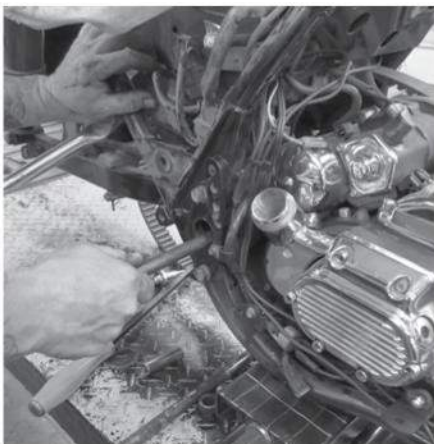
3 Using a 3/4" deep socket, Chuck loosens the nut on the swingarm shaft.



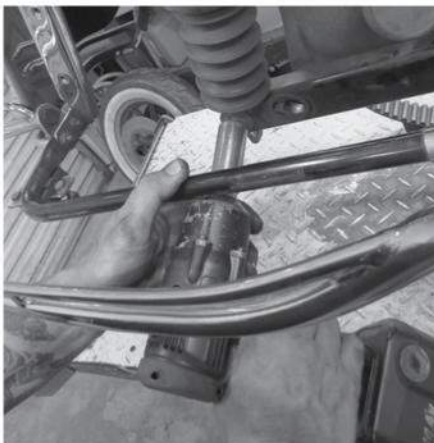
4 He then uses a 5/8" socket to remove the two bolts that hold the stock left rear fork (swingarm) bracket. He puts the bracket aside as it will be reused. The nut will not be.



5 Chuck uses a long prybar to take the pressure from the transmission off the swingarm bushing, so he can remove it, with the spacer inside it, from the left side of the swingarm shaft.



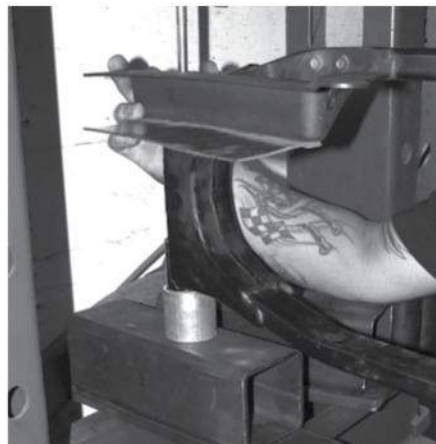
6 After removing the same parts from the right side of the frame, Chuck uses a hammer and brass punch to tap the old swingarm shaft from the frame, swingarm, and rear tranny mount.



7 After removing the right bushing, Chuck pulls the two dust shields from the bike, which were against the bushings. He then uses a 3/4" socket to remove the bolts from the bottom of both shocks.



8 Chuck uses a flat-bladed screwdriver to pop open both brake line clips so he can hang the rear brake caliper safely out of the way. He then pulls the rear swingarm from the bike.



9 After removing the seals, Chuck positions the swingarm on his press with a large open spacer under it so the old cleavebloc has a place to go as he presses them out using the proper size socket.



10 After coating the outer side of the Custom Cycle Engineering (CCE) bearing with red Loctite, Chuck positions the CCE bearing so the flat side goes into the swingarm first.



11 Chuck positions the swingarm and CCE bearing onto his hydraulic press. Using the CCE-supplied driving and positioning tool, he drives the bearing in until the CCE tool bottoms out on the swingarm.

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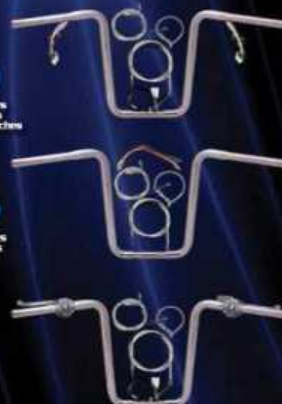
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12 Chuck replaces the old rear drive belt with the new one from Biker's Choice. Make sure you can read the writing on the belt when it's on the tranny pulley, which properly positions the belt.



13 Chuck then positions the CCE end spacers in both ends of the stock swingarm.



14 He can now position the swingarm around the rear mount on the tranny. This can take some time and finesse to do, so be patient.



15 After putting a new CCE spacer and H-D rubber damper in place against the swingarm, Chuck lightly greases and then sends the new CCE shaft through the frame and transmission using a brass hammer.



16 If the shaft moves the bearing out of the swingarm, just use the CCE driving tool and a brass hammer to properly position it in the swingarm again.



17 The CCE end spacer can now go in.



18 After putting the new H-D rubber against the stock bracket, Chuck positions both against the frame and swingarm.



19 Using the stock hardware, blue Loctite, and a 5/8" socket, Chuck lightly snugs the bolts down for now, so he can reposition the swingarm rubbers as needed for the next step.



20 After doing the same on the other side of the frame, Chuck installs the CCE thick washer (beveled side in and over the end of the shaft) and nut onto both sides of the CCE shaft.



21 Chuck then torques the swingarm shaft nuts to 45 ft.-lbs. using two 3/4" deep sockets (one on each nut) and the stock bracket bolts to 34-42 ft.-lbs. using a 5/8" socket.

neering (CCE) FLT/FXR Swingarm Retrofit Kit with axle (#497732/\$380). As long as we have to replace all these parts anyway, the CCE kit is the obvious choice. The kit replaces the old stock cleavebloc-style swingarm bushings with spherical bearings, which greatly improve the handling and tracking of 1980-2001 FLT and FXR models. The swingarm can react quicker with the CCE kit, allowing the shock absorbers to function even better. Lateral and torsional movement is also reduced thanks to the spherical bearing design. We opted for the kit that included an axle, but it's also available without one. CCE recommends replacing the old rubber mount isolators with new ones from Harley-Davidson (#47564-86B).

This month, we're also installing a Twin Power 32-tooth drive pulley

THERE MAY BE A REAR BRAKE line clamp on the right side bracket, so don't forget to remove it.

TIPS & TRICKS When it's time to install the CCE nut onto both sides of the CCE shaft, Chuck first packs some paper into his deep socket to hold the nut towards the end of the socket. This makes it easier to get the nut onto the CCE shaft. ■

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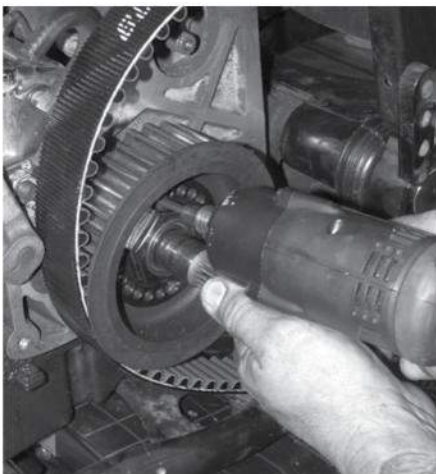
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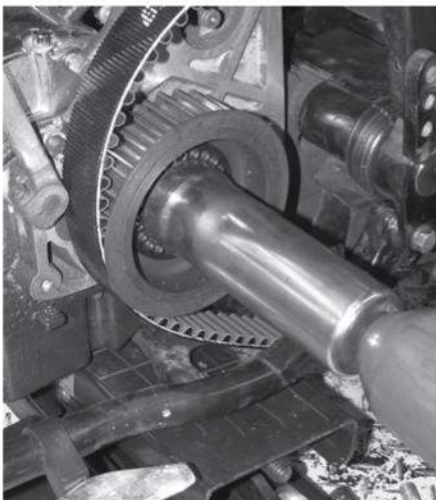
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22 After slightly spreading the tangs on the stock chrome end caps, Chuck presses both of them back into their brackets. He also reattaches both rear shocks using the stock hardware and blue Loctite.



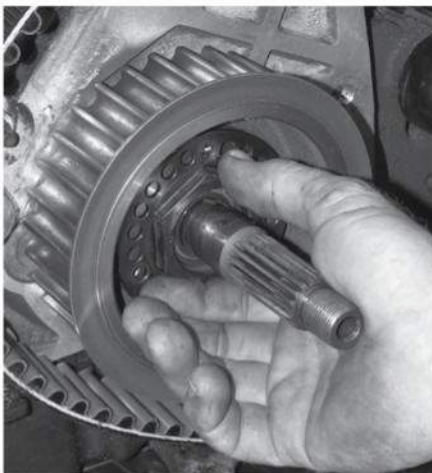
23 To swap out the old rusty tranny pulley for a new BC one, Chuck uses a 3/16" Allen to remove both hold-down bolts.



24 Chuck then uses a 1-7/8" special deep socket and an impact gun to remove the pulley nut, which is reverse-threaded.



25 Chuck now swaps out the rusty stock pulley for a new BC one.



26 After putting some red Loctite on threads, he threads on the stock nut/washer using just his fingers to make sure he doesn't cross-thread the nut, which is reverse-threaded.



27 Chuck then torques the nut to 50 ft-lbs. and then turns it 30-40 degrees more and makes sure he lines up two bolt holes.



28 Chuck uses a 3/16" Allen and blue Loctite to reinstall both stock hold-down bolts. He uses a 3/16" Allen to torque them to 100 in-lbs.

(#489758/\$79.95) for five-speed Big Twins; ours was rusted. Since you need to take off at least the left side of the swingarm to swap out the rear drive belt, we're also putting on a Gates Polychain 139-tooth, 1-1/2" final drive belt (#439063/\$192.95), which fits 1997-2003 FLs. The Gates belt is made of precision-ground neoprene rubber backing, which has excellent wear, vibration, and noise characteristics. Of course, we got these items from Biker's Choice as well.

As with the majority of this Road King rebuild, we're doing this installation at Chuck's V-Twin in Port St. Lucie, Florida. Chuck runs a well-known and reputable independent shop, and he's done tons of rebuilds like this over the years. Check out the accompanying photos and captions to follow Chuck as he takes us through upgrading our Evo Road King's swingarm using a CCE retrofit kit and various other parts from the Biker's Choice catalog. **AIM**

SOURCES

BIKER'S CHOICE
BikersChoice.com

CHUCK'S V-TWIN
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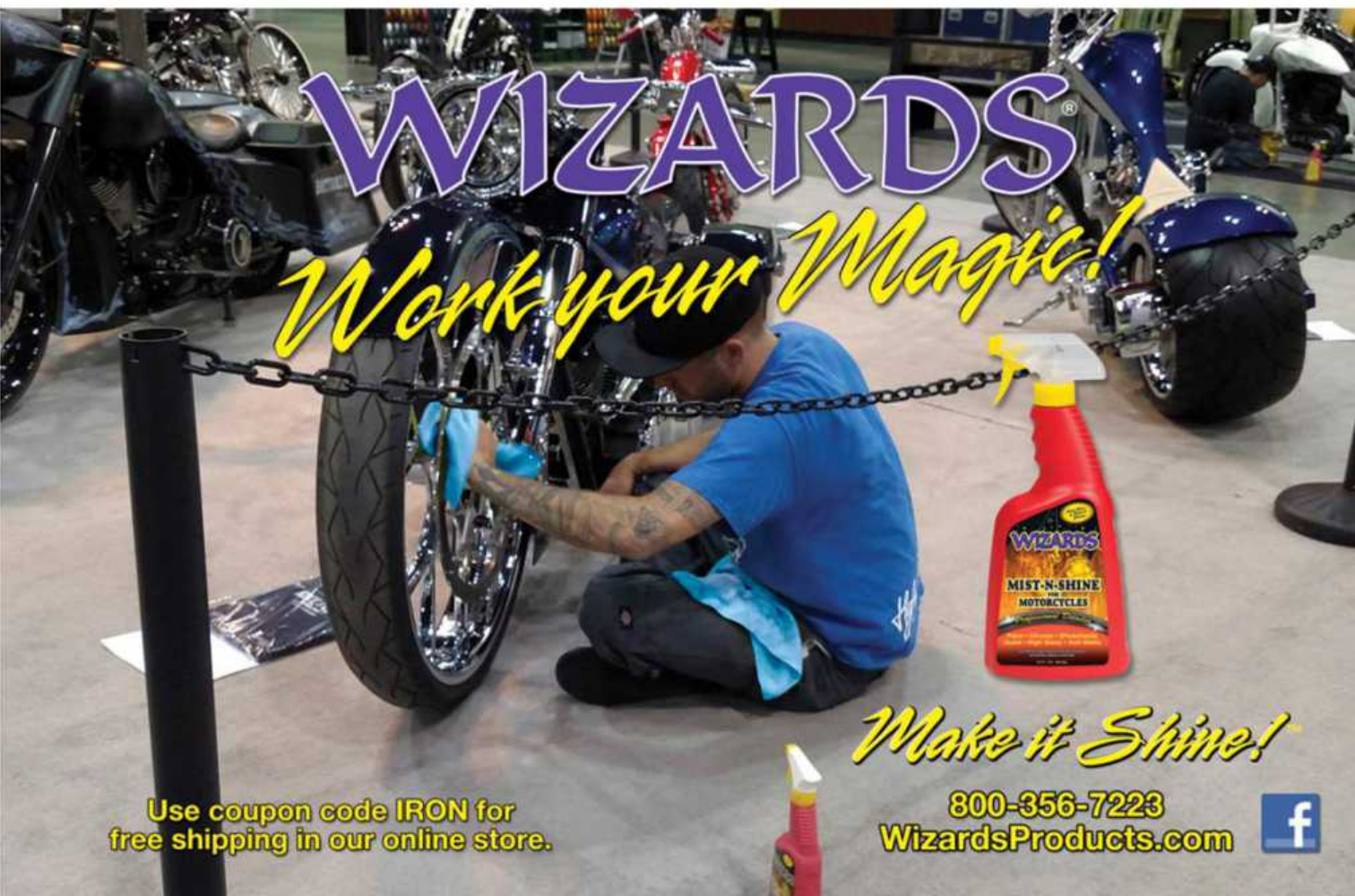
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PICKARD 23" WHEEL KIT

Part II: Our 2009 Electra Glide gets a new Pickard front wheel and matching rotor

**Motorcycle
BAGGER**

Here's where we left off in our last issue. The Pickard triple trees and the altered stock front forks are installed. The front end is ready for Brandon to install the new Pickard 23" front wheel with matching rotor and Avon tire.

WHEN IT COMES TO GOING BIG WITH YOUR bagger's front end, few other sizes can match the overall looks and performance of a 23" front wheel. You get the cool custom look of a 26" or larger wheel with the on-road performance of a 21-incher. At this stage in the bagger game, 23" tires are readily available just about anywhere in case you have a problem, but that size tire still has enough of a sidewall that it shouldn't. And as we're showing over the course of this two-part series, it can be a relatively simple bolt-on installation.

The key ingredient in this series to turn your 23" bagger into reality is Pickard USA's 6-degree triple trees, which we installed on our 2009 Electra Glide in the last issue. The Pickard setup automatically corrects the headlight and fairing angle as well, making upgrading to a 23-incher as painless as possible. Obviously, there's another major component involved, and that's the wheel itself. For the ultimate in ease, we turned to Pickard yet again for a 3.75-23" chrome Fat

Boy wheel (\$1,599). The Fat Boy hoop features hot rod, five-spoke styling and Pickard's signature 3-D surfacing. It's available in sizes from 2.15-19" to 4.00-30" up front while matching rears come in 16", 17", and 18" heights and a variety of widths. ABS bearings are optional, and matching rotors and pulleys are also available. We opted to run a single stock size, matching polished rotor (\$349).

A larger front wheel is great, but it's important to run a tire that can handle the size and weight and still maintain (or improve) the bike's performance. For that task, we turned to Avon Tyres for a 130/60R-23" Cobra radial (\$219.44). The Cobra series was designed specifically for the touring, power cruiser, and custom market like our Electra Glide. Avon combined sport tire technology (just take a look at that aggressive tread)

TOOLS NEEDED

- Blue Loctite
- Waterproof grease
- 1/4" Allen
- T-40 Torx
- #3 Phillips screwdriver
- 1/2" socket
- 15/16" socket
- 1/2"-drive ratchet
- Torque wrench (ft-lbs.) ■



2 The first step is to mount the new Avon Cobra 130/60-23" tire, noting the directional arrow and balance dot. Brandon then tops off the tire pressure to 40 psi.



3 He also checks the rotor hardware torque on the new Pickard matching brake rotor using a T-40 Torx to ensure that it's 45-50 ft-lbs. It is.



4 Brandon then positions the wheel between the fork legs and puts a skin coat of waterproof grease on the stock front axle.



5 Next he positions the stock right wheel spacer between the wheel and right fork leg and sends the axle partway through the wheel.

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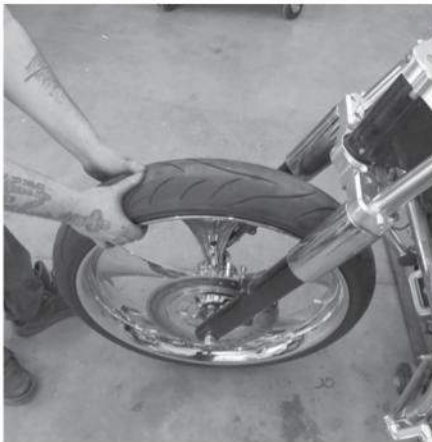
6 Brandon positions the stock left wheel spacer between the wheel and left fork leg and sends the axle fully through.



7 After he installs the stock flat washer and axle nut on the axle, Brandon torques the axle nut to 55-60 ft-lbs. using a 15/16" socket and a #3 Phillips screwdriver through the hole in the right side of the axle.



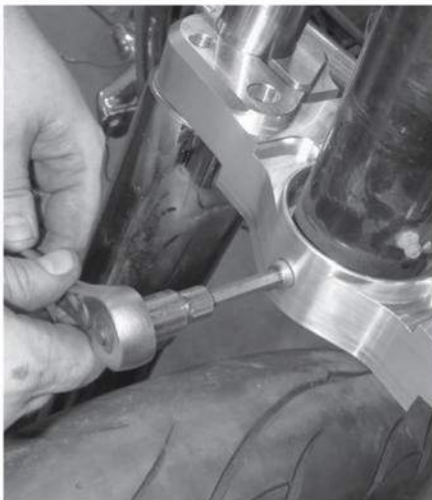
8 After putting some blue Loctite on the threads, Brandon uses a 1/2" socket and the stock hardware to secure the stock axle clamp to the right lower leg. He torques the nuts to 10 ft-lbs.



9 Brandon now pulls out on the front end to check the neck bearing endplay. He wants and gets no vertical movement and the front end turns smoothly.



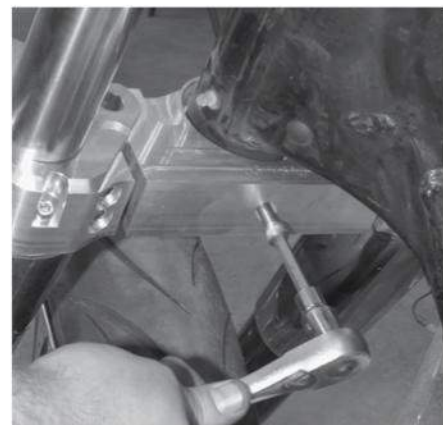
10 If there's some vertical play, tighten the bottom fork stem nut using a 1/2"-drive ratchet until all the vertical play is removed.



11 The Pickard bottom front steering stem lockbolt (short one) goes into the bottom tree using blue Loctite and a 1/4" Allen. Brandon lightly snugs it for now; he'll tighten it after he lightly snugs down the next bolt.

with a compound that promotes stability and longevity, making it perfect for our customized Electra Glide.

There you have it. With a one-stop outfit like Pickard and a day in the shop, our 2009 Electra Glide is sporting a completely new look and feel that will not only fit right in at a bike show but, more importantly, look great going down the road. Like the previous project on the front end, Chris and Brandon completed this one in Brandon's shop in just a couple of hours. Now this bagger is ready to hit the road in style!



12 The Pickard bottom rear steering stem lockbolt (long one) goes into the bottom tree using blue Loctite and a 1/4" Allen. Brandon lightly snugs this bolt, then tightens the front stem lockbolt, and then tightens this bolt.



13 Here's how the finished front wheel, rotor, and tire assembly look. AIM

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SE SHOTGUN MUFFLERS

Our Fat Boy gets a tough, slick-looking set of pipes

LAST MONTH, WE GAVE OUR BONE STOCK 2015 Fat Boy test bike a little kick in the pants with a Screamin' Eagle Ventilator air cleaner kit. We got an across-the-board power increase, as well as an improvement in the bike's throttle response and sound. The big advantage when going with Screamin' Eagle parts, though, is that it's a great way of keeping that brand-new bike looking fresh and performing hiccup-free.

With more air going into the 103" Twin Cam, and a nice rev limit upgrade (to 6250 rpm instead of the stock 5550 rpm), it's time to help get more air out. We picked a set of Screamin' Eagle Street Shotgun slip-on Softail mufflers (#80680-12/\$449.95). The Shotgun mufflers feature high-flowing internals to give the bike a little growl. Don't worry. It's nothing that will annoy the neighbors. With the EPA stamp of approval, these mufflers are 50-state legal when used on stock displacement engines thanks to the catalytic converter inside each one. When installing new slip-on mufflers, you must get two new muffler clamps (#65296-95A), which don't come with the mufflers.

Even though you can reuse the stock heat shields and clamps, we wanted to give the system a little extra looks upgrade by installing chrome Screamin' Eagle Shotgun muffler heat shields (#64806-07A/\$49.95). The Screamin'

Eagle lettering on the top heat shield shores up the bike's already tough appearance.

While it's not necessary to reflash the bike when doing a slip-on muffler install like it is for the Screamin' Eagle air cleaner, our bike has already been recalibrated to a higher rev limit. This install took about an hour in the American Iron garage.

TOOLS NEEDED

- Glass cleaner
- WD-40
- Rubber mallet
- Flat-bladed screwdriver
- 5/16" nutdriver/socket
- 3/8" wrench/socket
- 9/16" deep socket
- Ratchet extension
- Torque wrench (in-lbs.)
- Torque wrench (ft-lbs.) ■

I Here's our 2015 Fat Boy up on the lift and ready to get its new Screamin' Eagle Shotgun mufflers. Of course, you don't need a lift to do this swap.



2 Using a 5/16" nutdriver or flat-bladed screwdriver, remove both stock muffler heat shields. There are two clamps per shield.

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3 Using a 9/16" deep socket and an extension, loosen each muffer's stock clamp. Then spray a little WD-40 where the muffer contacts the header pipe, so the muffer will come off easier.



6 Gently tap the muffer with a rubber mallet to loosen it from its header pipe while pulling back on the muffer to walk it off the header. Then remove the muffer clamp from the header and discard it.



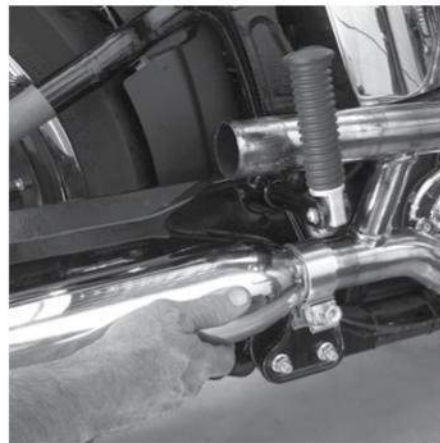
9 Put a new muffer clamp over the front of both new mufflers. Position each clamp so its nut is below its muffer's opening and facing out.



4 Using a 5/16" nutdriver or socket, or flat-bladed screwdriver, remove both header heat shields. There are three clamps on the bottom heat shield.



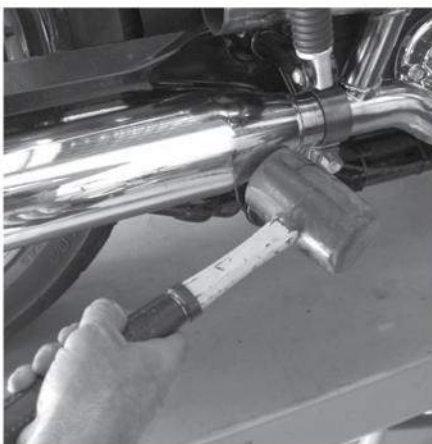
7 Using a 3/8" wrench and/or a 3/8" socket, remove the four bolts that hold the bottom muffer to its frame bracket.



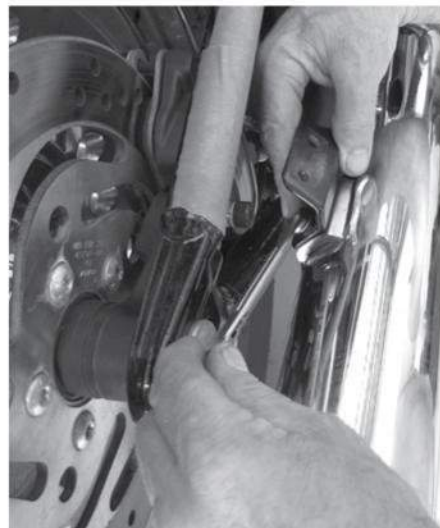
10 Slip the new bottom Shotgun muffer and its clamp onto the bottom header. Gently tap the muffer onto the header with a rubber mallet until its bolt holes line up with the frame bracket's holes.



5 After putting some blue tape on the frame tube to protect it, use a 3/8" wrench and/or a 3/8" socket to remove the two bolts that hold the top muffer to its frame bracket.



8 You may need to also tap on the front of the muffer to get it off its header. Then remove the muffer clamp from the header and discard it. Don't forget to wipe the WD-40 from the header pipes.



11 Reinstall all four stock bolts using a 3/8" wrench and/or a 3/8" socket and torque them to 96-120 in-lbs.



12 Position the muffer clamp around the very end of the muffer and torque its nut to 38-43 ft-lbs. Then do the same for the top muffer and its clamp reusing its two stock bolts.



13 After wiping the entire exhaust system down with glass cleaner, slip the two supplied clamps into the slots on the back of the new heat shields. Position the drive end of the clamp so it's on the bottom of the shield and it faces out.



14 Install the new top shield, the one with the Screamin' Eagle logo, onto the top muffer using a 5/16" nutdriver or socket, or flat-bladed screwdriver. Then do the same for the bottom shield.



15 Reinstall both stock header heat shields using a 5/16" nutdriver or socket, or flat-bladed screwdriver. Then wipe the entire exhaust system down with glass cleaner again.



16 Here's how the finished installation looks! AIM

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GUNNER BOBBER BUILD III

Kyle at Speed Foundry is transforming a stock Victory Gunner into a cool bobber!

AT THE BEGINNING OF THE SUMMER, KYLE Shorey of Speed Foundry Of Texas got a special delivery sent to his Dallas shop. It was a 2015 Victory Gunner with a little note instructing him to do whatever it takes to make it the coolest bobber he could and then bring it to Sturgis for the 75th rally festivities.

After a short stretch of figuring out the best direction for the Victory, which he had never worked with before, Kyle got down to the basics. For starters, he cut away the entire rear of the frame, which was severely limiting his fabrication options. In Kyle's mind, a badass bobber has to have a springer front end, and he pulled one of his own designs off the Speed Foundry shelf. Originally designed as a bolt-on part for late-model Harley Softails, it looks and functions perfectly on the Gunner, after some slight modifications, of course. A matching set of Ride Wright spoked wheels — wide in the back, tall in the front — got the bike to the point where Kyle could start his fab work.

To really clean up the rear end, Kyle crafted a floating fender that hugs the rear tire and is mounted to the swingarm. The bike's new gas tank has the traditional bobber feel, with all the internals, such as the EFI system's

fuel pump, needed to feed the edgy Victory powertrain. To complete the look of the engine, Kyle used a black and chrome air cleaner from Arlen Ness, which blends in well. Kyle then went to Hawg Halters Inc. (HHI) for the rest of the components required to turn this project into a fully functioning motorcycle. He installed a black HHI brake caliper up front that came with a black bracket for the springer front end. He also opted for the clean look of HHI's switch housings, clutch perch, and front caliper master cylinder.

By now, you've got to be really itching to see this custom Victory bobber. Just in case you didn't make it out to Sturgis this year, we'll be running a full color feature on the bike in the next issue. Then you can decide for yourself whether or not Kyle lived up to the task. Hint: from what we gathered at Sturgis, the answer is a resounding *yes!*

I Picking up where we left off in issue #326, Kyle installs an Arlen Ness air cleaner setup using the Ness-supplied hardware.



2 It's now time for the hand controls and front brake setup from Hawg Halters Inc. (HHI). First on are the HHI black front caliper and mount, which get secured to the front end using the HHI-supplied hardware.

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3 Moving to the handlebars, Kyle installs the clutch cable and HHI black clutch control onto the left side using the HHI-supplied hardware.



6 Kyle installs the HHI switch housing using the HHI-supplied hardware. He'll wire them up later on.



4 Kyle then installs the front brake master cylinder assembly onto the right side using the HHI-supplied hardware.



5 He then assembles both HHI black switch housings.



7 Kyle attaches the rear fender he made for the Gunner using the fender supports he also made and some Gardner-Westcott stainless steel hardware.



8 Kyle can now secure the front of his fender to the swingarm using more Gardner-Westcott stainless steel hardware.



9 The lower seat cover he made to hide all the electrics normally covered by the stock seat goes on next.



10 Here's the new gas tank for the Gunner. Doesn't look anything like the original, does it? However, all the important stuff, like the fuel pump, is inside and ready to go. AIM

SOURCES

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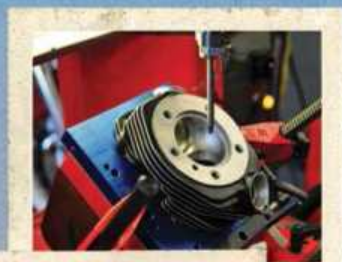


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Q: My bike is a 2007 FLHTCUI that I got with 9,750 miles on it. The only modifications are a Stage1 air filter and MAP download and Kuryakyn Crusher mellow mufflers. I just had the 20,000-mile service done on it before a recent trip to Gatlinburg with a group of friends. After every stop on the trip, whoever was behind me said they could smell oil coming from my bike, but no smoke. I have 30 psi of oil pressure at 3000 rpm and have ran Amsoil every since I've had it, and it's never overfilled. I live just two miles off the interstate and after every long ride on the super slab I park it in the garage, and when I come back out a short time later I smell a strong gas odor. Plus, it was a half quart low on oil after the just under 800-mile Gatlinburg trip. The bike runs great. What 's going on and should I worry?

STEVEN TYLER
Clarksville, TN

A: You might want to look at your valve guide seals, Steven. If they're just starting to fail, your buddies may smell the smoke before they see it. To verify the

Whenever someone is riding behind you, does he detect a burning oil smell coming from your bike even though there's no smoke? Is the oil level a half-quart low after only a 1,000-mile or less trip? Your valve guide seals may be just starting to fail. Your buddies may smell the smoke but not see it. To verify the problem, try pulling the spark plugs to see if there are any deposits built up on the electrodes.



To submit a question to our H-D-certified mechanic, who has been working in dealerships for over 20 years, send in as much info about the problem and bike as possible to Hog Helpline, c/o American Iron Magazine, 1010 Summer Street, Stamford, CT 06905, or e-mail ChrisM@AmericanIronMag.com. Sorry, but due to volume, we cannot respond to requests for personal replies or to all letters.

problem, you could try pulling the spark plugs to see if there are any deposits built up on the electrodes.

I have another thought since you mentioned the fuel smell. You could have a leaky injector that is causing a rich condition. The rich condition could then wash the cylinder walls down to the point where the rings won't seal properly causing the oil usage and oily smell. Then when you shut the bike down in the garage you'll smell the excess fuel lying in the induction module. Again, a look at the spark plugs can help determine the problem.

Q: I have a bone stock new 2015 Street Glide Special. The bike has 700 miles on it. When the bike is cold, it's quiet as a mouse. As soon as it warms up, I start having issues with the drivetrain. Shifting is very loud. There is a slap/bang, like it's hitting another gear when going from first to second gear. There is a slap/bang when rolling the throttle off and on. The bike also appears to be bucking and lugging, especially in first through third gears when just cruising or slowing down. The dealer said that he'll put in Belray for the tranny, and it would quiet it right down. It didn't. My salesman and I took out another Street Glide, and we switched bikes. We came back to the dealership and he talked the service manager into ordering the "updated high performance compensator." When that came in, they pulled open the primary case and found out that the updated compensator is standard in 2014 and later Touring models. I took the mechanic for a ride on the back seat. I demon-

strated the issues I was having. He said everything I am complaining about is normal. They even tried to pawn off the Harley neutral rattle issue on me. I have driven five different 2015 models (three Street Glides, and two Ultras) and none of them exhibit the issues to the extent my bike does. I would almost point to an extra lean air/fuel mixture for the bucking and lugging, but that doesn't resolve the slap/bang noise, and the extra slap/bang when going from first to second.

PAT HENNESSY
Via Internet

A: We've been having these same types of complaints on the six-speed since 2007. The neutral rattle is a real thing as is the loud shifting. The biggest problem is, as you're seeing, Steve, is that no two bikes are the same. Some are very loud, others not so bad. I recently had a customer test ride a new Limited Low and a Street Glide back to back. He wondered what was wrong with the transmission in the Low as it was so loud compared to the Street Glide. Bottom line is, there's nothing

wrong with it. Yes, it's louder than some but that doesn't mean something is about to blow up. They call it a stack up of tolerances. All the pieces assembled in your transmission are a little looser fitting than someone else's. It may be louder than the other bikes, but it's still within the acceptable tolerance range of the manufactured part. I've also tried the Belray gear oil. I haven't seen any advantage to using it in the six-speed as it didn't help the noisy ones. My feeling is your dealer is trying to fix a problem that isn't really there.

As far as the bucking/lugging, that may be just what it is. The six-speed has taller gear ratios on all gears. If you let the engine's rpm drop too low, the tranny will make all sorts of bangs and clanks when opening or closing the throttle. And the new improved compensator assembly has come stock on the Touring models since 2011.

Q: I have a 1997 Ultra with EFI. Every three years my stator burns out. Three years ago, my mechanic put in an on-demand stator,

which means it puts out what you need when you need it. It fried as well. What could be causing this problem? I haven't had any electrical problems other than the stator.

ROBERT MUELLER
Via Internet

A: What kind of battery are you running in your bike? An off-brand battery from the aftermarket or an auto parts store may overwork the charging system to the point of overheating. When the stator windings get hot enough, the enamel insulation melts, which allows the windings to short out. The battery keeps starting the bike, so you never suspect it as being the cause of the problem. Do you have any extra electrical accessories attached to the bike? These can also overheat the stator and cause the same thing. You should perform a total current draw test on the bike to show how much current is needed to run your motorcycle and the accessories. If it's close to the max output of your charging system you're probably cooking the stator. If that's the case, lose some of the accessories. **AIM**

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Hot XL

Q: I would like to know what Ironhead Sportster oil pumps fit what years and which ones do you recommend?

JIM

Via Internet

The best oil pump for pre-1977 Ironhead Sportsters was released in 1967. It has much larger vent windows in the breather gear assembly. This helps reduce the engine's internal crankcase pressure, which helps reduce leaks.

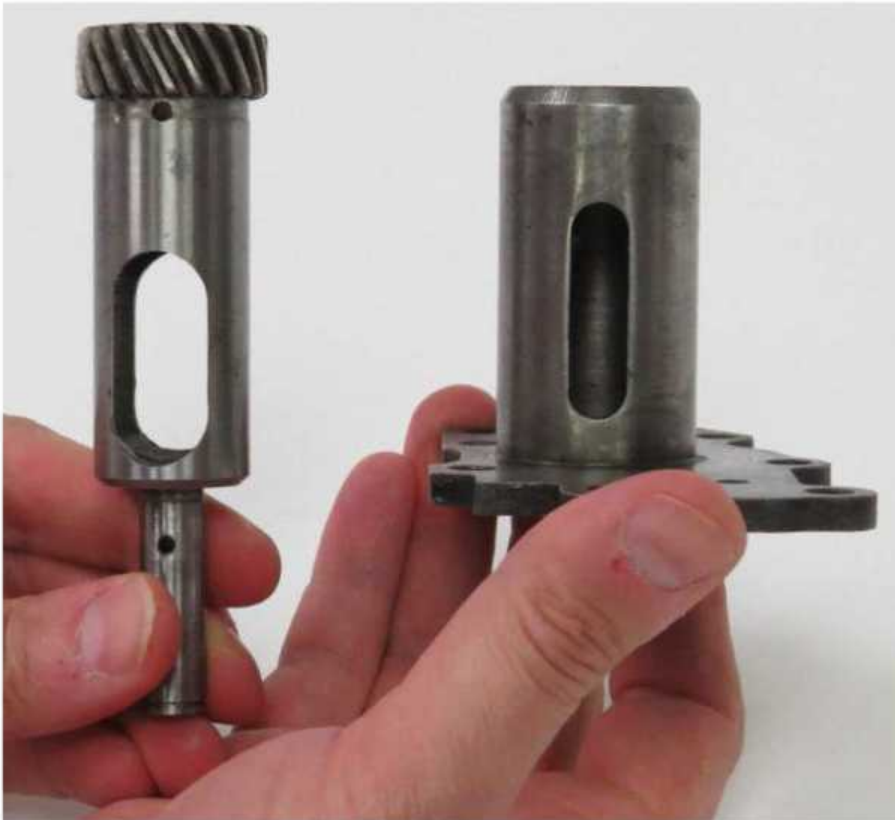
A: Jim, this is a good question, but it would have been nice to know what year bike you have. It's not really a problem though as we'll just go through all three types. The first oil pump used (#26203-52E) was a carry-over from the 1954 and later K Models. It has the small diameter feed and return gears (0.987" OD). This pump also has small vent windows in the oil pump breather gear (#26331-60). I only use this pump when doing restorations.

The best oil pump (#26204-67) was released in 1967 on XLH models and has larger feed and return gears, plus

much larger vent windows in the breather gear (#26331-72). The larger gears produce more oil flow through the entire engine, which makes it run cooler. The larger vent windows in the breather gear reduce the internal crankcase pressure, which helps reduce leaks and improves performance a bit.

A couple of other things you'll notice when looking at the complete oil pump assemblies side by side is that the early pump feeds and returns oil through the engine cases while on the later version the oil goes directly from the tank to the back of the pump. The return and small vent line that runs from the cam cover to the oil tank is the same on both style of pumps so all you need to do is plug the feed port in a set of early cases and run the oil pump feed line from the oil tank right to the pump like the later models do. This is the only modification you'll need to do when converting to the newer (#26204-67A) style pump on early cases. BTW, the oil pump body casting number is 26215-52 on the early pumps and 26215-72 on the later, better pump.

The third type of oil pump (#26204-75) came along with the sump-style case upgrade in 1977 and was used till the Evo XL. This type of oil pump was used in all the later Ironheads and is a gerotor design. I really like this type of oil pump as it has good oil flow throughout the engine and, as an added bonus, you don't even have to time the oil pump like both of the early pumps require. I do need to mention a couple of things when working with this pump. There were some problems with the internal check valve sticking, so



Got a question about a problem on your Sportster? Send your query, with as much info on the bike as possible, to *American Iron Magazine*, Sportster Corner, 1010 Summer Street, Stamford, CT 06905, or e-mail it to ChrisM@AmericanIronMag.com. Sorry, but due to volume we cannot respond to requests for personal replies or to all letters.

always install a new redesigned check valve (#62435-76A). Another thing to be aware of is the oil pressure idiot light. The oil pressure port is before the check valve so if you put the check valve in reversed, or it sticks closed, you won't know you've lost oil pressure till the engine locks up. Yep, the light comes on to let you know your motor is probably junk. Hey, it happened to me on a new 1978 stroker rebuild that was done before the upgraded check valve was available. (GGRR! \$#!%).

Now before you go out and buy a new-style gerotor oil pump for your 1976 and earlier Sportster, be advised that it does not fit, period. Use the #26204-67A pump on the early models. In fact, always use the #26204-67A oil pump assembly when building any 1957-76 Sportster stroker or high-performance motor.

As a last thought, if you're building a nostalgic or early racing Ironhead engine, the feed and return oil lines (but not the vent) can be run from the oil tank directly to the oil pump and, yes, the 67A oil pump itself can be blueprinted and modified for better flow and performance, if you know how to do it.

Now just when you think we're all done with Ironhead XL oil pumps, here's a final thought. I need to warn everyone working with XL oil pumps that there are only two complete oil pump assemblies listed in the Harley part books: the early obsolete forever #26203-52E for 1954-69 models, and the bigger-geared, improved pump #26204-67A that I recommend. However, watch out for an oddball set of pump gears and body that were produced in late-1962 until 1971. These parts are slightly different than any of the other two that fit pre-1977 Ironheads. Do not use these parts with the other versions. Using normal gears with the oddball pump body can cause the oil pump to bind. Using the oddball narrower gears in a normal pump body will cause very low oil pressure. The part number for the oddball oil pump body is #26216-62A. The oddball scavenger gears are #26315-62 and #26317-62 (idle). The oddball feed gears are #26323-62 and #26322-62 (idle). The best advice I can give you here is if you don't know what oil pump parts you have, check and measure everything out closely and

dry-run the pump before installing it and firing up the motor. Check twice and be right once is my motto!

Q: Dan, I'm having a hard time kickstarting my 1971 kickstart-only XLCH. I've already done all normal tune-up settings and adjustments. I've had the bike for many years, and it always started pretty well until the last couple of years. Do you have any ideas? The bike runs great once it starts, and the spark plugs are clean, and everything else looks perfect, too.

TIM L.
Via Internet

A: Tim, I do have a couple things you can try. I've already covered the problems with starting kickstart motorcycles in depth in earlier issues, but here's the short version just for you. Make sure you have solid core wires for all mechanical ignition points or magneto ignitions. I like Autolite #4275 spark plugs for pre-1977 bikes and #4123 plugs for later-model ones. I set the spark plug gap at 0.018" for magnetos and 0.028" for points. Set the ignition timing at 38-40 degrees total for all models and

don't retard the magneto or manual retard distributor completely when starting. Try setting it at about the halfway point. Check the intake manifold O-rings/bands. Also check all carburetor rings, gaskets, and accelerator pump diaphragms to be sure they're in good condition, not decomposed, cracked, or hard due to the new fuels and additives. Last but not least, check to see that you have a nice blue spark at the plugs when kicking at normal starting speed. As an added thought, you may need to change your cold-start prime routine to work with the fuels now being sold. After doing these adjustments, all the kickstart motorcycles, Sportsters and Big Twins alike, usually start and run fine.

Two other things to do are to run nonalcohol fuel whenever possible, and if your point-style auto advance ignition is still being temperamental, you can send me your complete ignition weight assembly (#32517-70), and I'll modify it for you.

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D&S Performance
Lake City, PA



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I FINALLY GAVE IN. I'VE BEEN USING THE GPS FEATURE ON my phones for years though it was a pain in the butt. I had to keep pulling the phone out of my jacket pocket to find the next turn!

I finally got a Garmin zumo 590 last summer, and I love it! Besides all the stuff you expect from a GPS, the 590 puts a reddish ring around your speed if you go above the legal limit. That feature has definitely saved me from quite a few tickets, since I didn't notice that the speed limit had dropped, but the cops I passed sure would have known. The 590 also tells you if you're about to enter a school zone, as well as if there's a quicker route available, all without you having to ask.

The 590 displays the road you're on and all intersecting streets, your arrival time, current time, distance to your next turn, direction of that turn, the street you're turning onto, the name of the road you're on, your actual speed, the posted speed limit, and the compass direction you're traveling in. The

running map is easy to follow and when you're approaching your highway exit an actual picture of the exit (Junction View) comes up on a split screen so it's easy to know where to go. The 590 also has a curvy road route option, which is perfect for motorcycles. That feature is definitely a favorite on mine. There's also a detour feature if you encounter a bad traffic jam or road work.

And, yes, the 590 is available with mounts for your car windshield and 1" motorcycle handlebars. I got both! **AIM**



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This Tumbler (a 5-pounder is also available) can hold up to 18 pounds of media, water, and whatever it is you want to clean. It comes with one

bowl, 7 pounds of green 1/4" pyramid-shaped media for removing rust, and 7 pounds of corncob media to lightly polish the parts/hardware once they're clean. I also got two replacement bowls

(#20164/\$27.99 each), so I can load the polishing media in its own bowl and load the third bowl with another load of rust-removing media. This way, instead of having to keep swapping the media in the supplied bowl to do different jobs, I just swap out the bowl. Sometimes I also add Eastwood Tumbler Additive Cleaner (#13476Z/\$14.99), which helps remove the rust.

Hey, why work harder than you have to? **AIM**

SOURCES

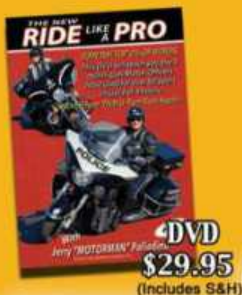
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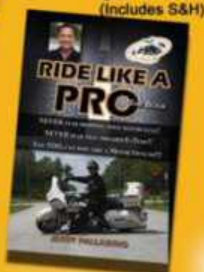
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WORTH THE WAIT I waited almost a year and a half to buy my 2011 Heritage Softail Classic and have been thrilled with it. I've been customizing it the way I want and have many more projects planned for it. Your magazine was my first subscription to a motorcycle magazine, and I've learned so much from it. I appreciate all you do and can't wait for each issue.

RICHARD JOHNSON

Fennimore, WI



Got a bike you think belongs here? If so, send a few high-resolution (300 dpi at 8" x 8" minimum) images to Letters@AmericanIronMag.com or *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905.



Dynojet

WRECKED OPPORTUNITY After a 1984 Ironhead Sportster and a 2006 Night Train, I figured it was time to give a bagger a try, and found this 2013 Road King available for sale. A bit banged up from a low-speed drop by a new rider, I saw the opportunity for a good deal and as an immediate excuse to hit the catalogs to clean it up. A Screamin' Eagle exhaust, a few blacked-out parts from Drag Specialties, and some H-D parts for the motor are the start. Looking forward to many rides with my wife, Shannon, through the Sierra Nevada foothills. Keep up the great work in the magazine!

KEITH PIERCE
Via Internet



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SCOTT COBURN

Kenai, AK





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MY FORTY-EIGHT This is my daily rider, a 2010 XL1200X Forty-Eight. It won a First In Class award from the ABATE of Ohio Region 5 Clinton County Car and Bike Show on June 13. My Forty-Eight has 10" mini-apes, Brawler saddle, and engine guards. I repainted the tank Mirage Orange Pearl and added various touches of bling. I also use a detachable windscreen and luggage rack whenever the ride calls for them. I look forward to every issue of *AIM*. Keep up the good work.

MAC MCKIBBEN
Wilmington, OH



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25 AND COUNTING My wife, Becky, and I ventured out West for our 25th anniversary. We rode my 2003 Harley-Davidson Road King to places such as Mt. Rushmore, Devils Tower, and the Badlands. Beautiful sights are made even better when riding a Harley!

MATTHEW WINTERS
Ripley, TN
AIM



Mikuni HSR42 Easy Kit bolts right on to replace the stock CV carb.

At Left: "Mikuni's HSR42 Easy Kit when used with a Screamin' Eagle Air Filter and aftermarket exhaust, the HSR42 Easy Kit adds 25% more power to the Harley motor. Evo Horsepower is increased from 57.8 to 72.2 hp, and maximum Torque from 71.4 to 80.7 ft/lbs.

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Outcasts For Outcasts

LePera's Outcast GT looks sporty and, thanks to its steep contour rider area, there's plenty of support during long hauls. For even more support, LePera includes a removable rider backrest. Just slip it in the provided slot and then hit the road. The Outcast GT's rider area is 15" wide for a comfortable fit. A racy inlay center stripe with matching side graphics is available in either red or white. The Outcast GT has a black powdercoated steel baseplate covered with soft carpet to protect the bike's paint, and it's ready to mount using OE attachment points. To boost rider comfort, the Outcast GT has Marathon foam that's upholstered with premium black vinyl for a lasting fit. \$875. Info: LePera, 818/767-5110, LePera.com.

All claims and specifications are those of the manufacturers. Submissions are welcome and should include a color digital (300 dpi jpeg) image, detailed description, and suggested retail price. Send submissions to Widgets, *American Iron Magazine*, 1010 Summer Street, Stamford, CT 06905, or Widgets@AmericanIronMag.com.

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Info: Drag Specialties Seats, Seats.DragSpecialties.com.

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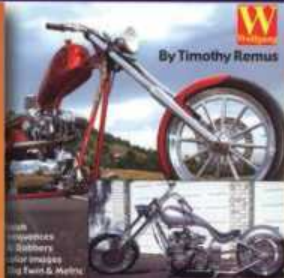
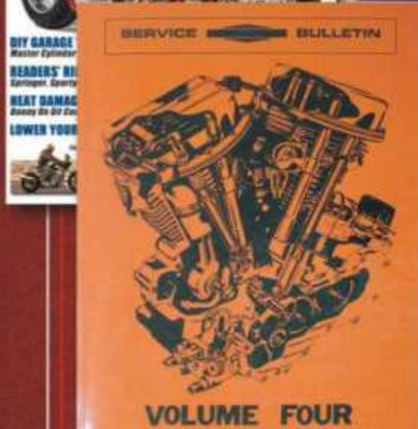
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WIDGETS



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The "new" ThrowBack seat from Mustang fits all 2004 and later Sportsters. Mustang used all its 21st-century seat-building techniques to bring this old style forward into the present. Technological updates include Mustang's proprietary foam formula and durable steel-reinforced, marine-grade fiberglass baseplates. It has a 10"-wide rider seat area and a 6-1/2"-wide passenger seat area. It's finished off with a diamond-stitched pattern and covered buttons. \$409. Info: Mustang Motorcycle Seats, 800/243-1392, MustangSeats.com.



Ride That Indian Wright

Ride Wright Wheels introduces its complete line of El Camino, Omega, and Exotica wheels for Indian Chief and Chieftain models. Ride Wright implemented its three-piece modular billet hub system into these wheels, allowing a simple and quick crossover to the Indian platform. Only the hub is being refitted, not the entire wheel. By stocking these hubs, dealers can add an Indian option overnight. It also allows dealers to stock one wheel and multiple hubs to fit a boundless array of models and manufacturers. The billet hub system allows the consumer to move the wheels from manufacturer to manufacturer and from model to model. Info: Ride Wright Wheels, 714/632-8297, RideWrightWheels.com.

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Bare Knuckle Choppers' new Retro velocity stack is the result of people asking for something new and unique for their trusted Super E/G and Linkert carburetors. Designed and cast in the US and machined at Bare Knuckle, it comes with the clever cover plate, which doubles as the screen retainer. All the necessary hardware is included. Choose from polished or raw as well as a brass or stainless steel screen and short or tall sizes. Info: Bare Knuckle Choppers, 888/240-NUKL, BareKnuckleChoppers.com.



Adjust The Horizon

HeliBars' multi-adjustable Horizon handlebar optimizes riders' wrist angles so they can more easily support their weight. HeliBars' handlebars offer three planes of adjustability, resulting in superior comfort. Made from DOM tubing with pivots CNC-machined from solid 6061 billet aluminum, the bars offer increased comfort and control. They utilize the stock control clamps, accept heated grips, and are torqued down using the highest quality hardware. The Horizon is a direct stock replacement for the 2014-15 Indian Chieftain and Roadmaster. From \$750. Info: HeliBars, 800/859-4642, HeliBars.com.

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Control That Sporty, Bro!

TC Bros. Choppers' new bolt-on forward controls kit for 2004-13 Sportsters features CNC-machined 6061 aluminum folding footpegs with a knurled, nonslip finish for great looks and performance. Heavy-duty steel mounting brackets are TIG-welded and powdercoated Satin Black for durability. Stainless steel linkage rods provide smooth shifting and corrosion resistance. Highly detailed mounting instructions allow for simple installation. All pivot points utilize oil-impregnated, precision-fit bronze bushings for long life. The foot position is the same as a set of OEM Harley forward controls. Kits for 1991-2003 Sportsters are also available. \$374.95 without pegs, \$449.95 with pegs. Info: TC Bros. Choppers, 419/265-9399, TCBros.com.

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Rockford Fosgate announces its new RFXHD9813 amplifier installation kit for Harley-Davidson fairings from 1998 to 2013. The kit contains a mounting plate, heat sink, and wiring kit for installing Rockford Fosgate's compact Punch and Power series amplifiers on Harleys. The heavy duty cables provide the necessary current and voltage requirements for the amplifier and do not require any cutting or modifications of the factory wiring. \$149.99. Rockford Fosgate, RockfordFosgate.com.

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Originally sold by Roland's dad in the 1980s for motorcycles, it was only fitting that Roland Sands Design (RSD) brought the Kimtab wheel into the future and make it out of high-quality forged billet aluminum with signature RSD detailing. The Hutch relives those glory days without the swap meet searches and the questionable safety of vintage cast wheels. It was designed with weight savings in mind for a light, reliable, and high-quality wheel with enough funk to turn out any race chopper. The wheels are fully sealed and maintenance-free with deep groove wheel bearings. Matching rotors, pulley, and air cleaner are also available. Everything is available in contrast cut, Machine Ops, and chrome. Info: Roland Sands Design, 877/773-6648, RolandSandsDesign.com.



Go-Fast Indians

Wimmer Custom Cycle launched its new air cleaner kit for the Indian Chief Thunder Stroke motor. The classic round high-flow air cleaner will not only boost performance, but increase rider comfort as well. With the advanced billet aluminum backplate that houses the throttle body, the complete air cleaner kit is shifted inwards, making the entire profile 1" narrower than stock. Sandwiched between billet aluminum plates is the deep-pleated reusable air filter, which provides superior air filtration and added performance. The filter is available in five standard colors and features dry filter technology, which requires no oiling. Info: Wimmer Custom Cycle, 866/468-2925, WimmerCustomCycle.com.

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Arlen Ness' product line for Victory features 10-Gauge gas caps, 10-Gauge muffler tips, and 10-Gauge engine covers. Each product is finished in chrome or is black-anodized, made in the US, and sold separately. All 10-Gauge products complement each other to enhance the custom appeal of your Victory! From \$89.95. Info: Arlen Ness, 925/479-6350, ArlenNess.com.



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WIDGETS



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The new sissybar mounting kits from Ginz Choppers are available for all Victory Cross Country, Cross Roads, and Magnum models. The standard finish is Ginz's show-quality chrome with powdercoating options available. All sissybars are custom-made, and welds are precision hand-blended for a flawless finish. Ginz also offers backrest pads and light- or heavy-duty luggage racks. Info: Ginz Choppers, 949/916-2701, GinzChoppers.com. **AIM**



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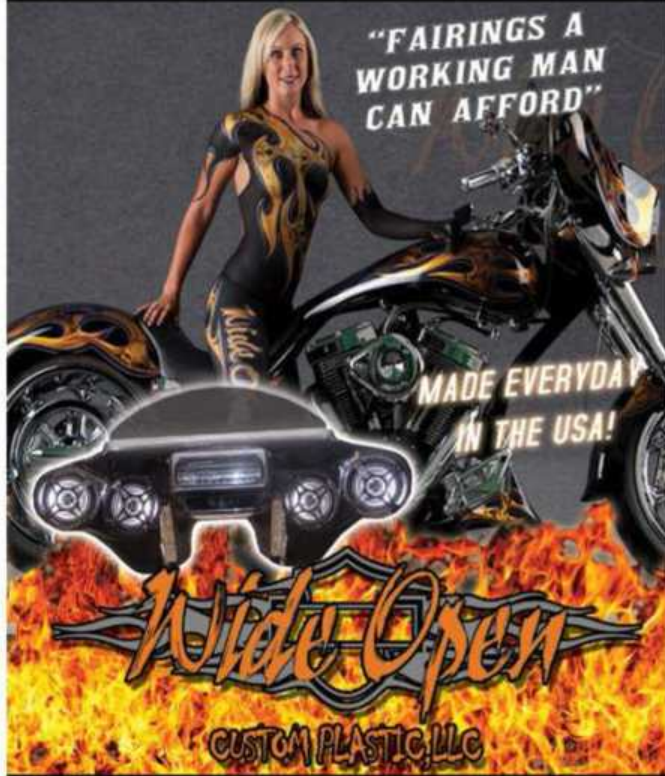


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continued from page 48

has perfect, intricate paint. Was it perfect before I took delivery? Maybe not.

Bruce emphatically perseveres: "So the bottom line here is Donny's Victory may have jumped ahead of Harley's offerings in many other ways, but when it comes to paint absolutely no one paints, or chromes for that matter, better than Harley. Just thought you should know." Bruce, I'm not maliciously attacking H-D, as, I too, love its product, but that does not mean competition will not make H-D even better. H-D has excellent quality paint. My complaint was not directed at quality but that, in my eyes, much of it is drab. Victory also has drab paint on some models. However, the Magnum paint is stunning for a production vehicle. I know how to do fine metal flake, to make it sparkle and dance, to create depth, and to add dimensional quality subtly changing color depending on light and angle. The Magnum arrests the eye with the initial paint design and color. Then closer inspection reveals

the fine, glistening metal fleck, Trust me, Magnum paint has many more layers than H-D. That said, beauty is in the eye of the beholder. Everyone likes something different.

Then there are those that blindly follow the party line and are taught what to like. Many riders are new to Harley. They are taught the traditions they are supposed to like to fit into the fold. To step back with a critical eye is sometimes difficult and can open one to criticism from the faithful.

I also happen to know much about chrome. It's impossible to do lustrous, deep chromium plating with present American/Canadian/European pollution laws. It's easy to do great chrome in countries that have lax environmental concerns. Both H-D and Victory have great chrome as a result.

Conclusion

IN THE NEXT ISSUE, WE'LL DISCUSS stability, handling, ABS brakes, fuel economy, and whether Victory or Harley is faster.

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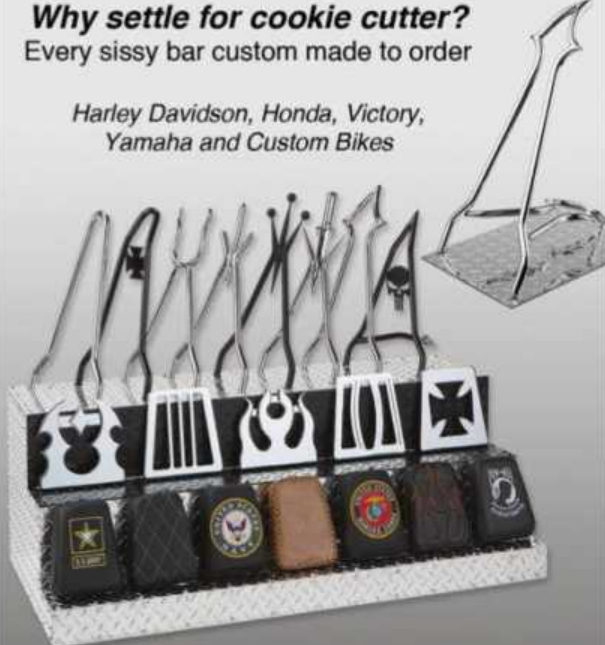
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CRUISING THE INTERNET AND WINDOW SHOPPING for cars, motorcycles, and any other mechanical wonders that happen to show up during our endless search for cool are pastimes that can be fun and dangerous! Dangerous because I know so many cases of people buying something they absolutely never contemplated owning or they spend way beyond their means on an impulse or a wild jag! Shopping those ways just has that crazy effect on us all.

Of course, the opposite can also be true when shopping over the Internet. If you're looking for something in particular and you've already committed to owning that certain something, then cruising the 'net can be the perfect way to find what you're looking for and maybe even score a bargain in the process.

Joe Scalisi is one of those Internet shoppers. First, know that Joe is a hardcore motorcycle

enthusiast. He has a few bikes in his garage that serve as his regular rides. There's his 1978 Harley-Davidson FL that's set up with a solo seat and painted like a 1957 Panhead for riding when he's feeling in the nostalgic mood, while his outlaw alter ego is satisfied with a 1972 Triumph chopper. Recently though, he was looking for something different. He wanted a bike with a sidecar that he and his wife, Mary Carol, could ride and enjoy together. He wanted a classic, but one that is turnkey and easy to ride without worry of breakdowns and such. He also wanted a bike that his wife would feel comfortable on during long afternoon rides.

One day, Joe's prerequisites were fulfilled while surfing the Internet, spotting this 1975 Harley-Davidson with sidecar listed for sale. He immediately went to check it at Thunder Cycles, a local shop in Port Jefferson Station, New York. The bike boasted all the qualities he was looking for, plus it had great paint, which is important to Joe because he works in an auto body shop where he paints cars for a living. His work is so good that he's won Best Paint awards at some prestigious local car shows.



Eventually, Joe struck a deal with Thunder Cycles, and he and Mary became the proud new owners of this rig. Joe loves Shovelheads, Joe having come of age when Shovelheads were new in dealerships during the 1970s. He feels the old Shovels render a classic look that's straightforward to maintain, ride great, and have amazing sound and visual appeal.

Joe also feels that his rig's Glacier Blue paint gives it an eye-catching stature, and the sidecar serves as icing on the cake. The sidecar itself is based on a 1942 Ural outfit that's been adapted to fit the Harley chassis. The combination must work because Joe says it handles fantastically and rides and stops easily in a perfectly straight line.

As with all old bikes, Joe had to do some tinkering to this rig to get it roadworthy. He cured some top-end oil leaks before tuning up the old 74" engine and he changed all the fluids. He also inspected the entire motorcycle and sidecar to ensure both were tight and ready to roll.

The old Shovelhead engine sports a couple of S&S products, including the carburetor and oil pump. After a thorough inspection of the engine's parts, Joe was convinced that the previous owner had gone through everything to assure reliability and smooth running operation. Today, the rig has about 40,000 miles on it, and prior care is evident throughout. Joe says the four-speed transmission performs great, especially for hauling the side hack, and the front and rear 5.00-16" tires add to the comfortable ride, as does the bike's pogo sprung seat.

Joe says that riding the sidecar took a little getting used to at first, but eventually, he got the hang of muscling it around turns rather than leaning left and right. The real fun? That's picking up the third wheel while making sharp left-hand turns!

Joe and Mary ride their rig throughout Long Island's road system, taking it to concerts, cruising the beaches, and

enjoying the back roads and undiscovered (make that less-discovered) places on the island. Throughout, the sidecar never fails to draw a crowd. In fact, Joe says that he feels the side hack, of all his bikes, seems to garner the most attention these days. And that's what makes it such a great adventure machine!

So if you're out cruising the byways of Long Island and you happen to see an unusual vehicle dressed in Glacier Blue paint coming your way, just wave and smile. It's just a couple of happy people in their 40-year-old classic American motorcycle out for some fun and relaxation in a machine doing what it was built to do so many years ago. **AIM**



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Phil Fisher sent in these great photos of his father and mother Emerson and Helen Fisher: (left) Emerson and Helen in front of the home of Emerson's parents, Emery and Gladys Fisher, at 324 West Mechanic Street, in Shelbyville, Indiana, around 1938. Emerson was born in 1916, Helen in 1912. (right) A much younger Emerson on a 1929 Harley-Davidson JD Two-Cam — a very fast bike for its day — behind his parents' house.



(left) This photo shows Emerson and Helen (center) on a ride with some friends, probably somewhere in southern Indiana.

PHIL FISHER
Milwaukee, WI

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